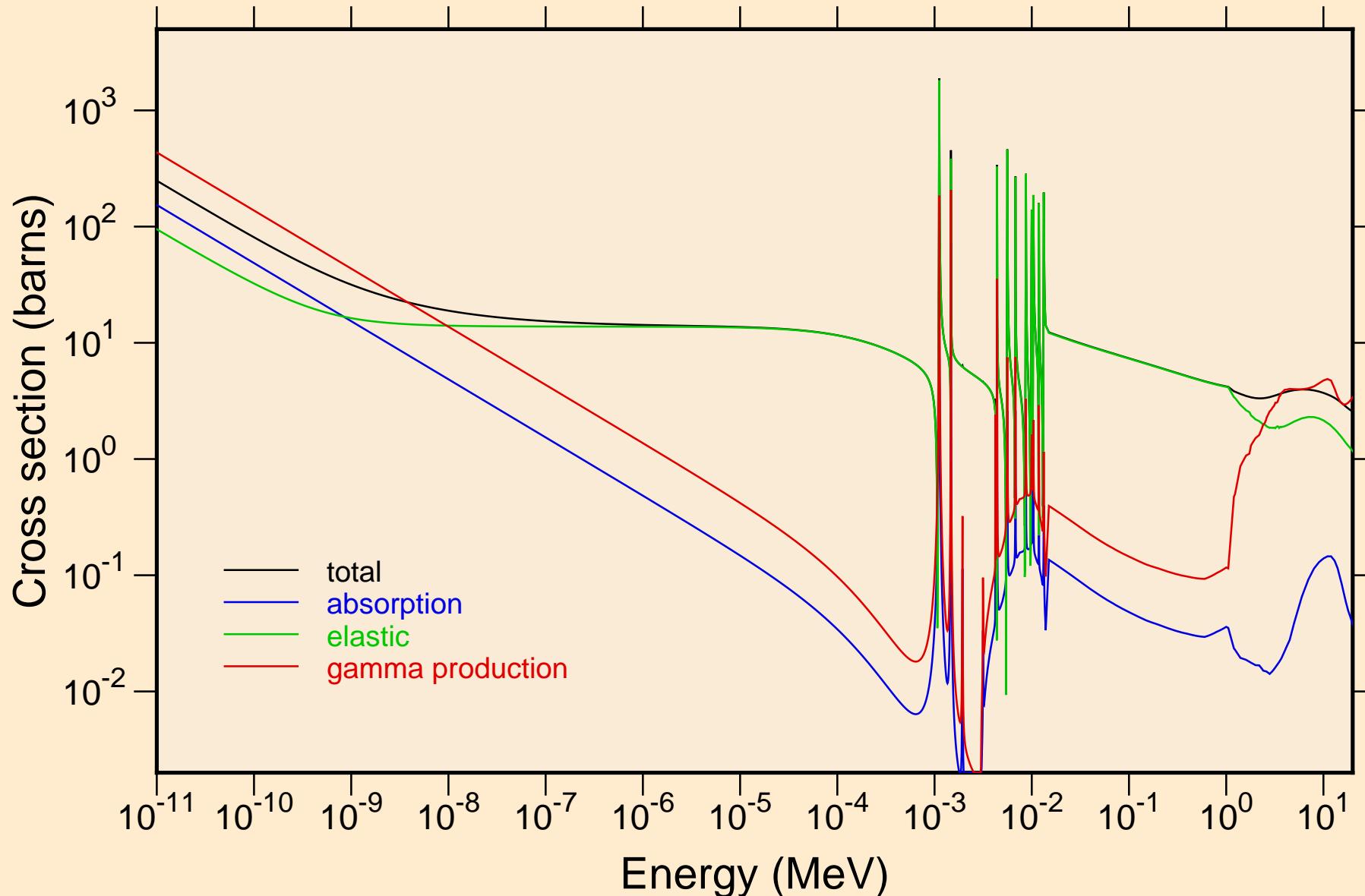


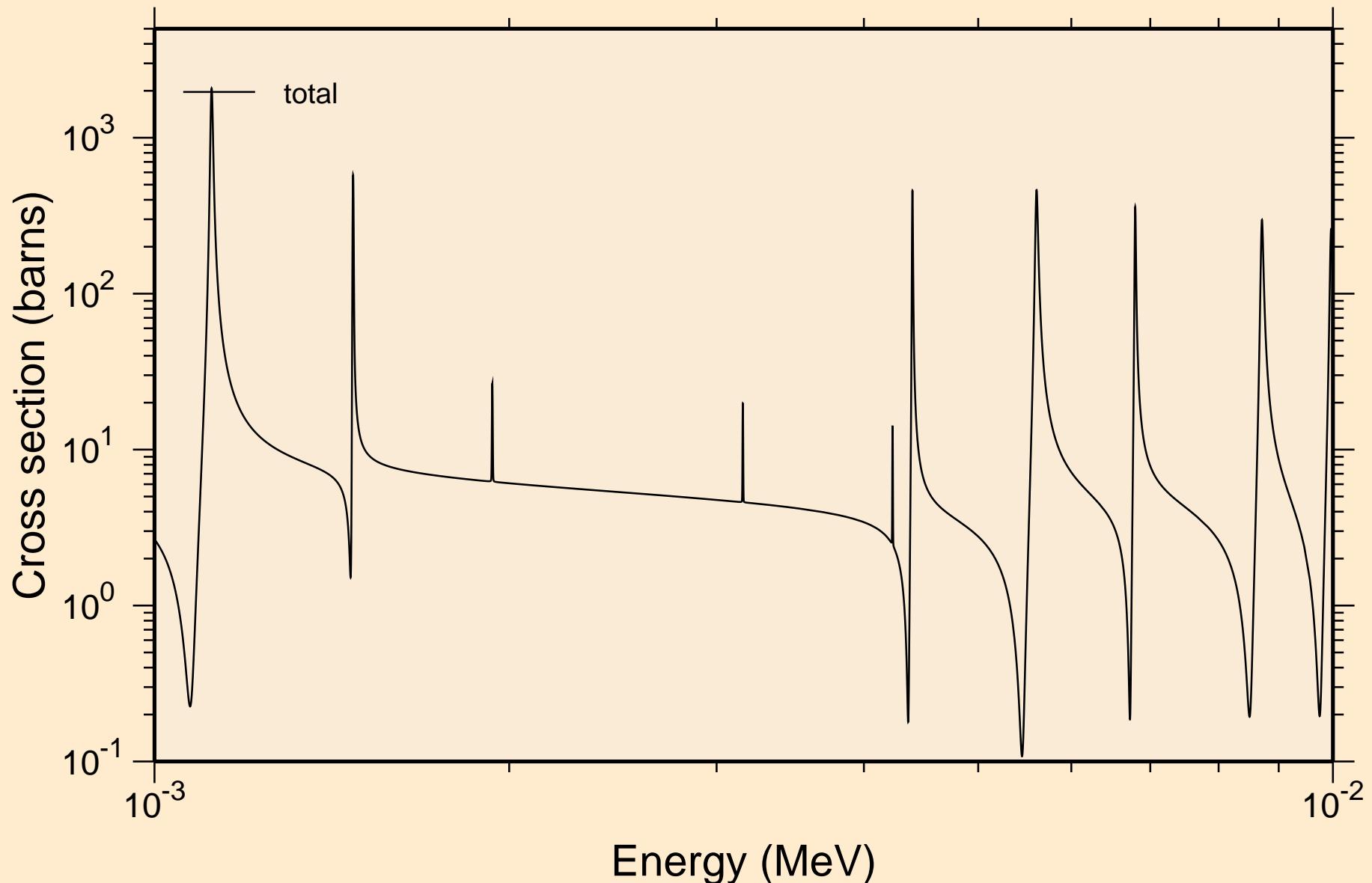
# ADVANCE CALCULATIONS

## Principal cross sections



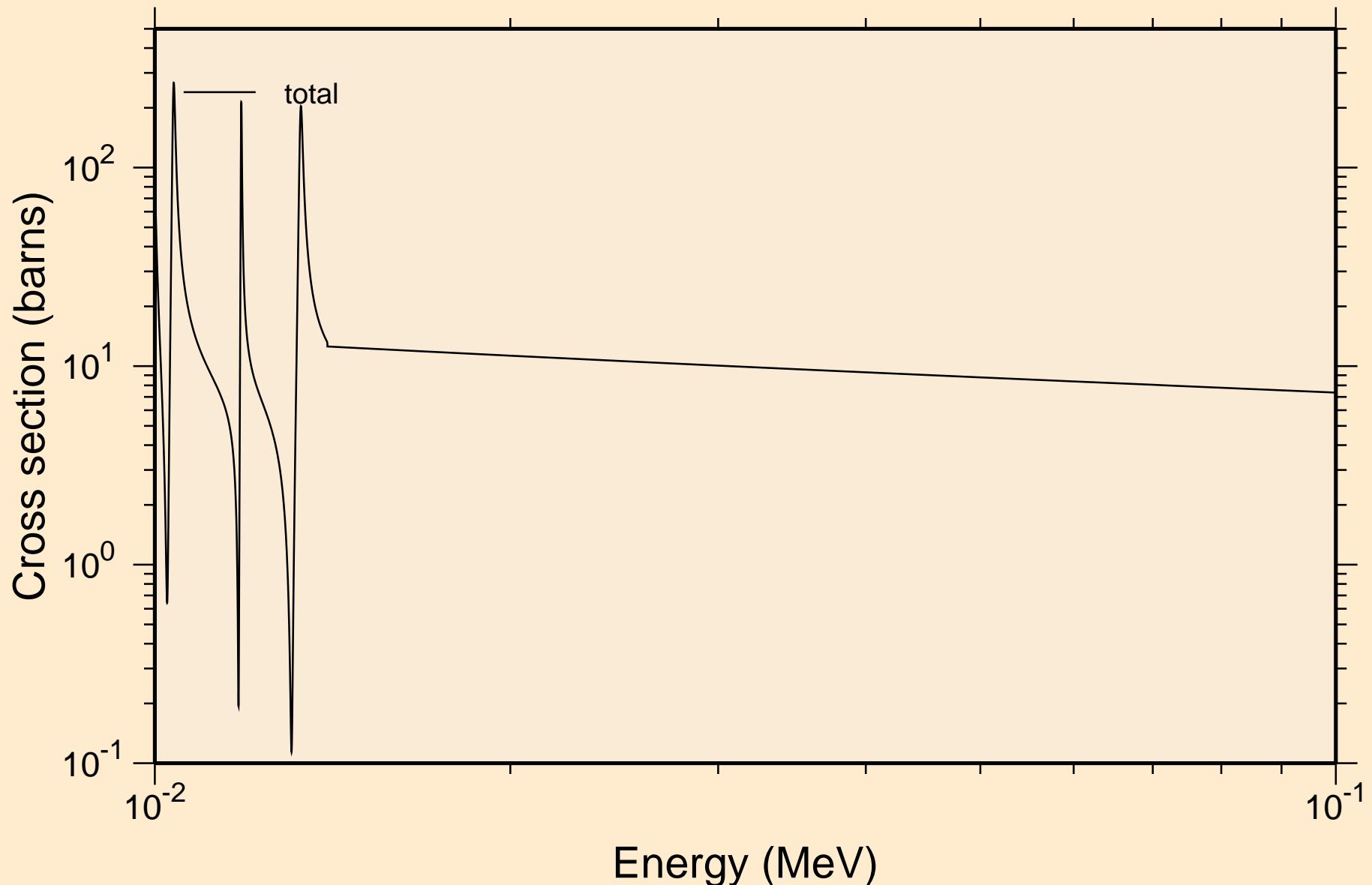
# ADVANCE CALCULATIONS

## resonance total cross section



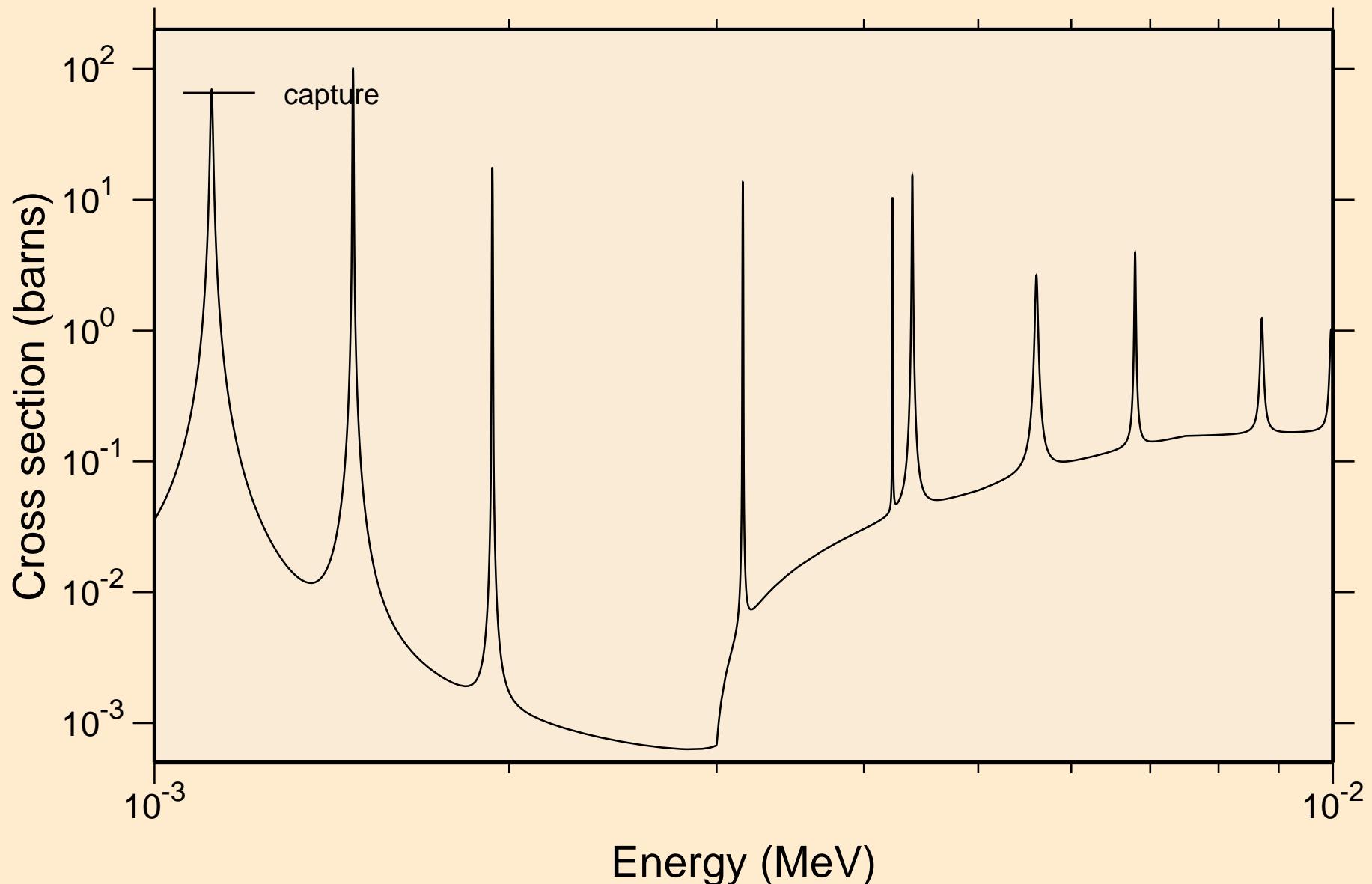
# ADVANCE CALCULATIONS

## resonance total cross section



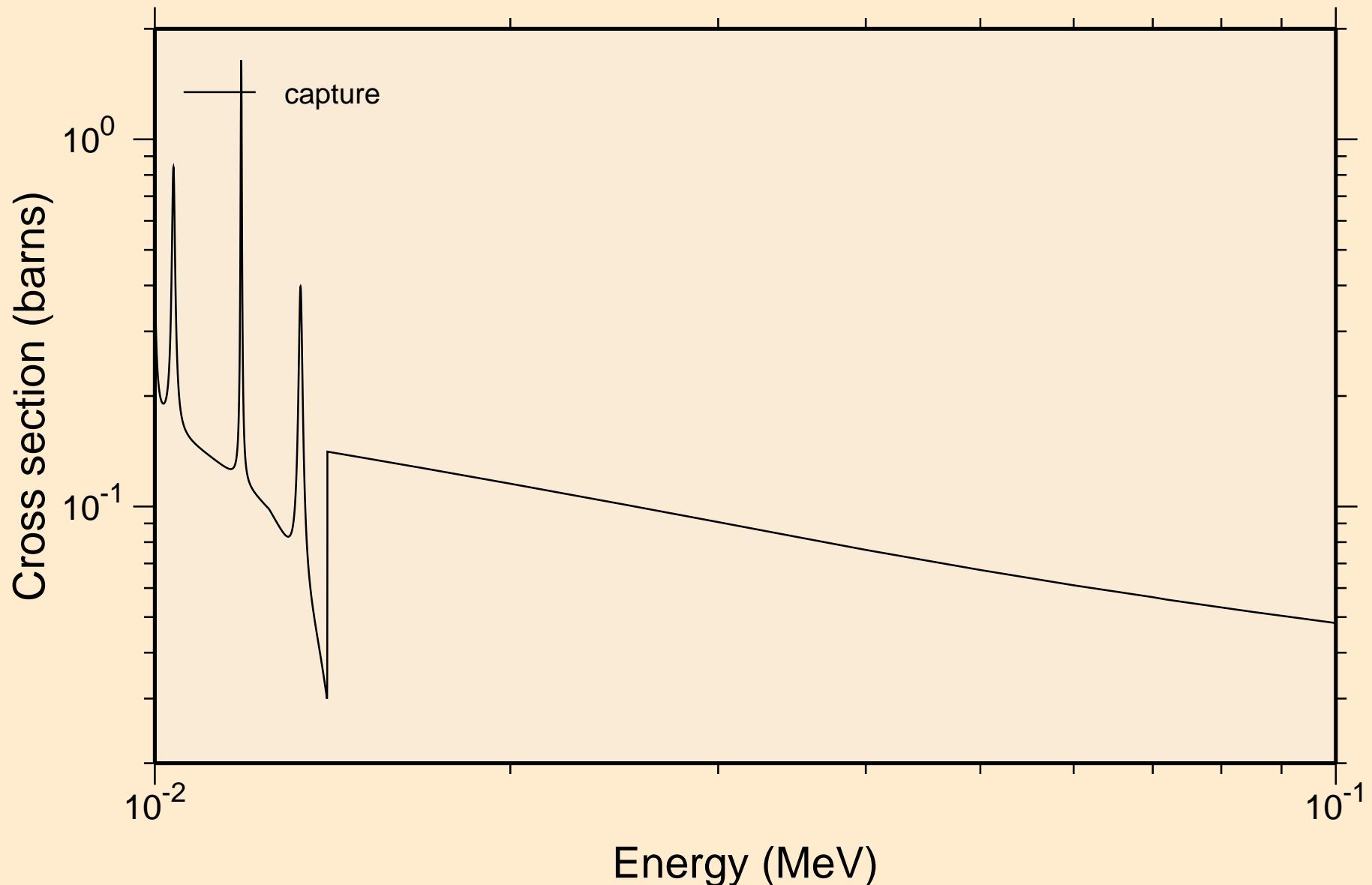
# ADVANCE CALCULATIONS

## resonance absorption cross sections



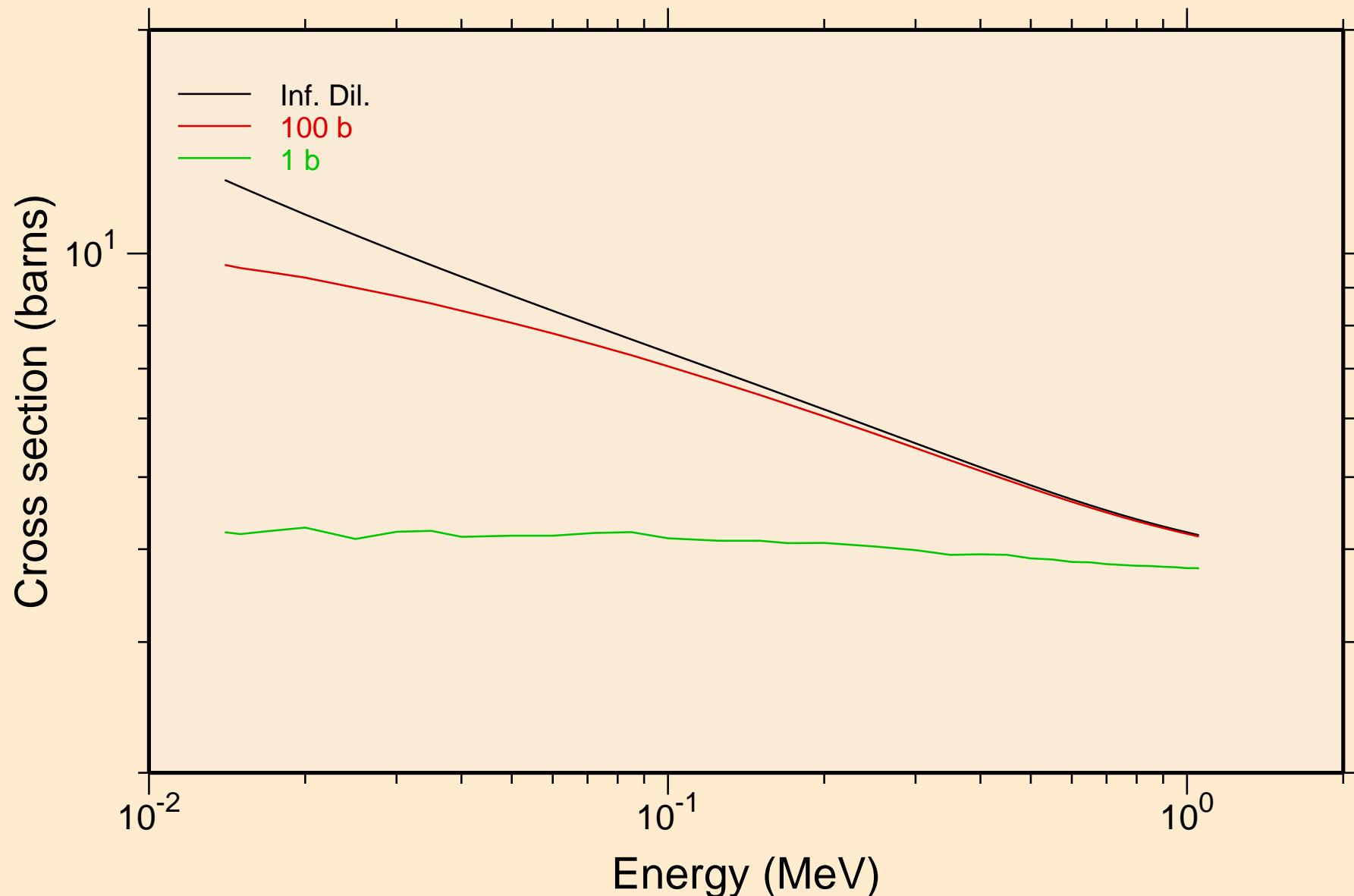
# ADVANCE CALCULATIONS

## resonance absorption cross sections



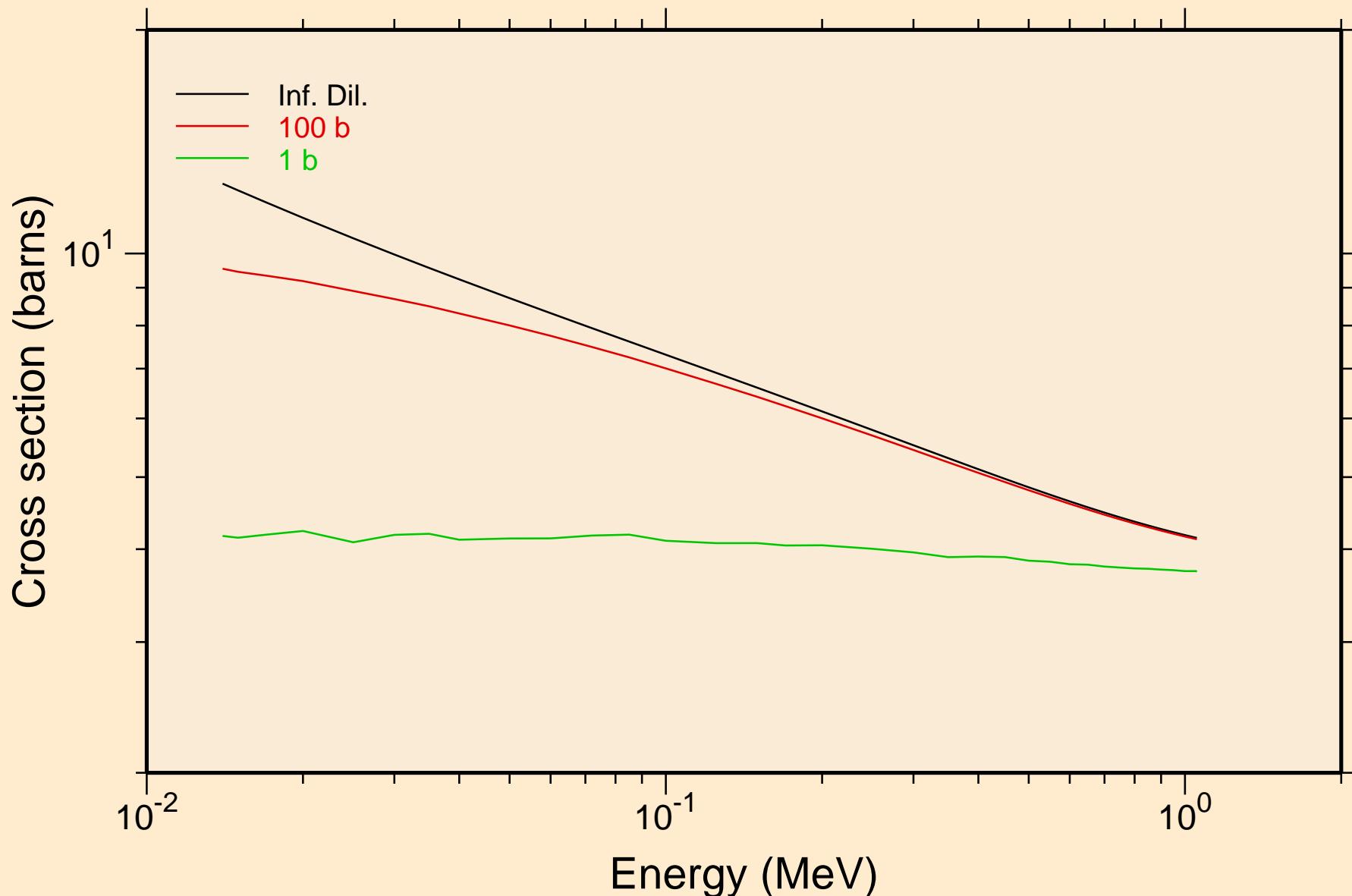
# ADVANCE CALCULATIONS

## UR total cross section



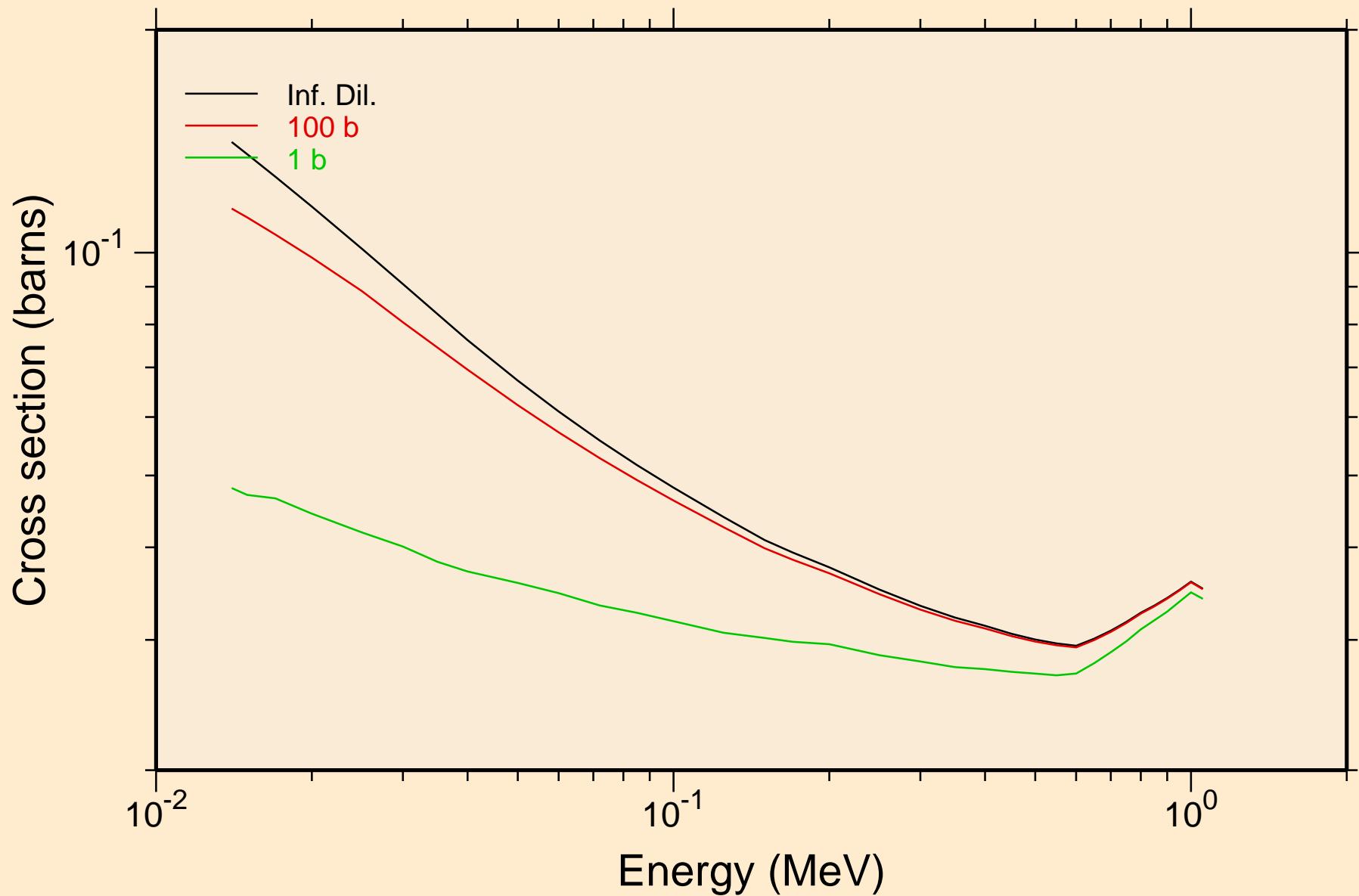
# ADVANCE CALCULATIONS

## UR elastic cross section



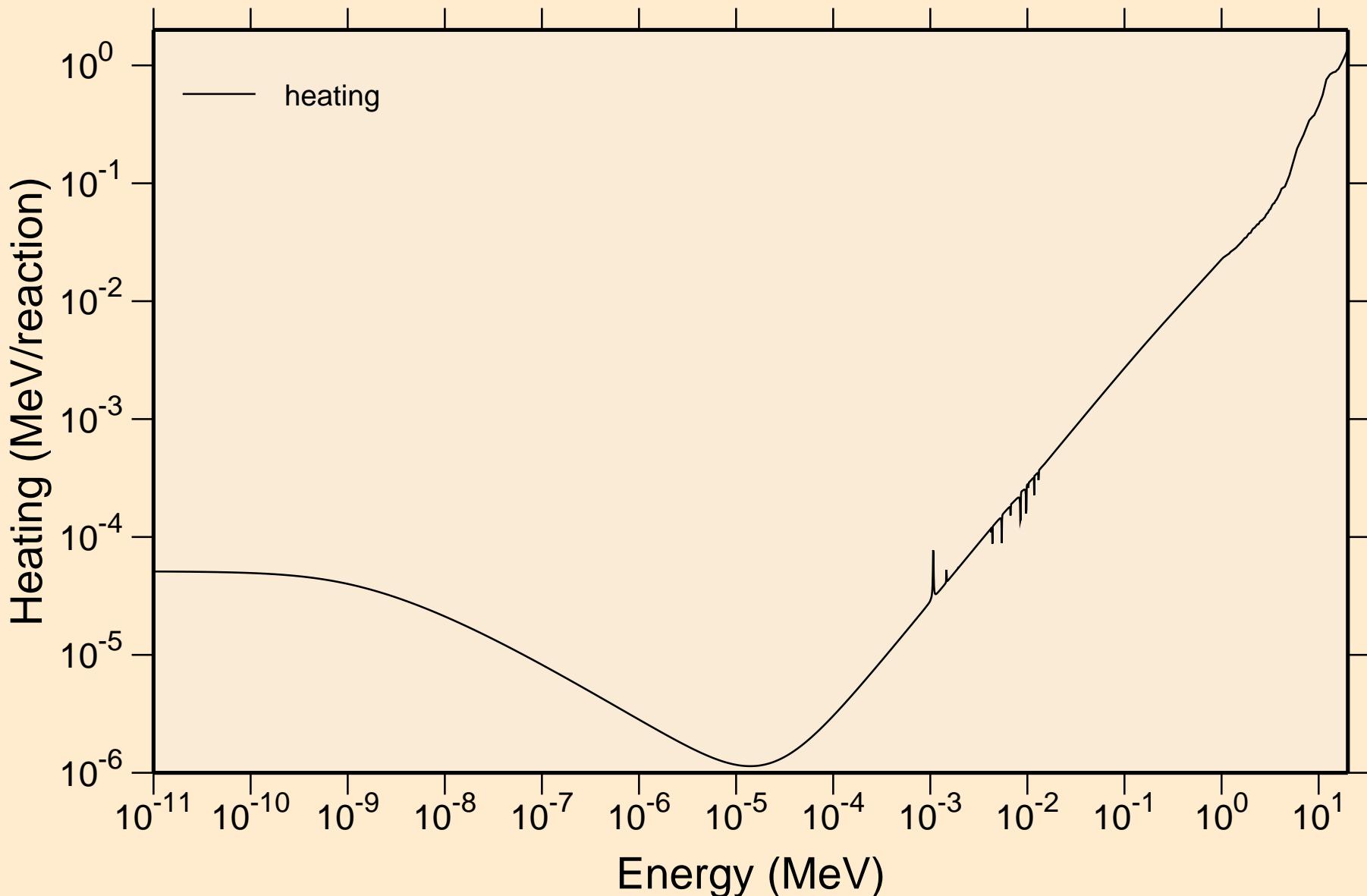
# ADVANCE CALCULATIONS

## UR capture cross section



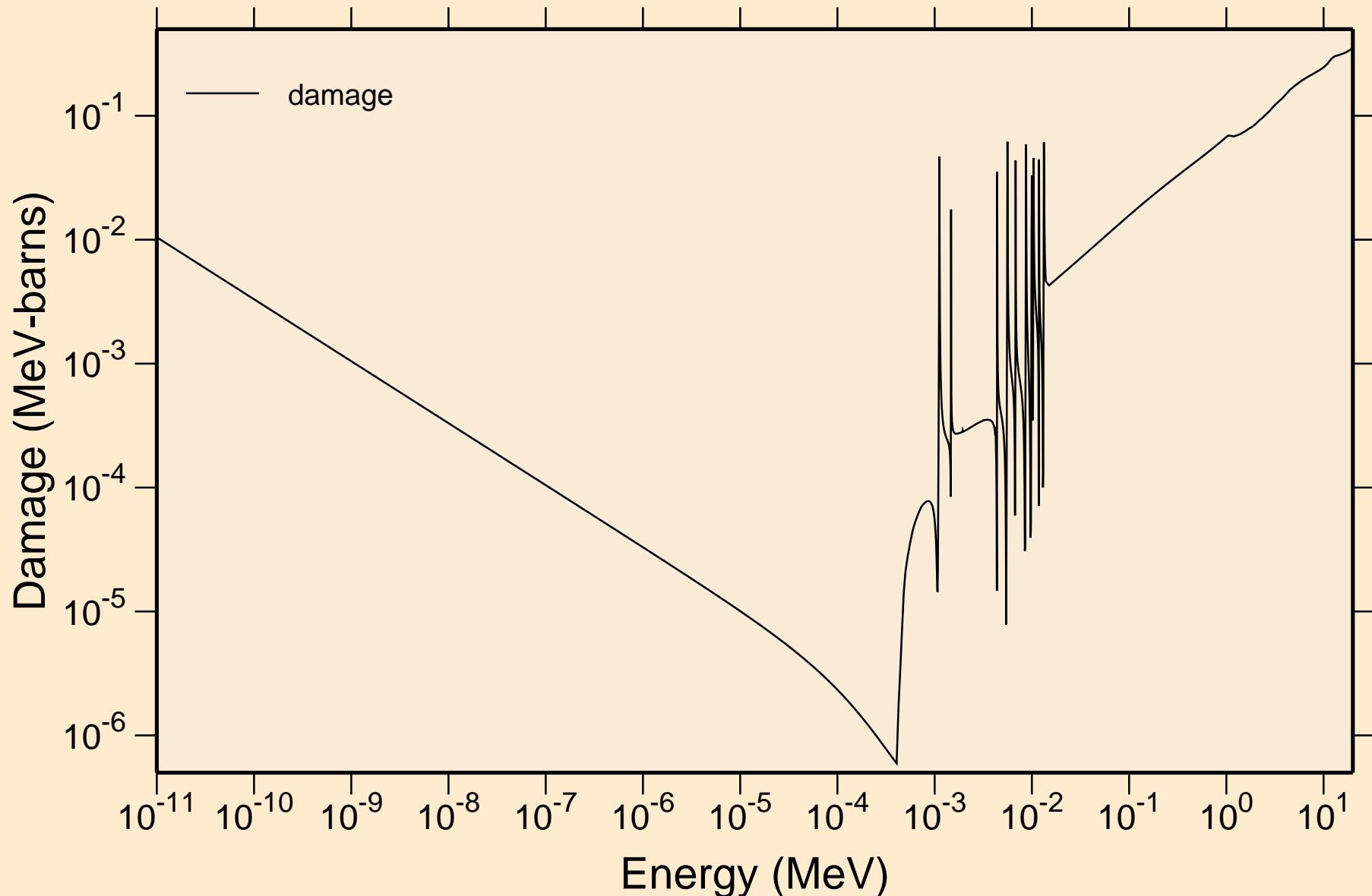
# ADVANCE CALCULATIONS

## Heating



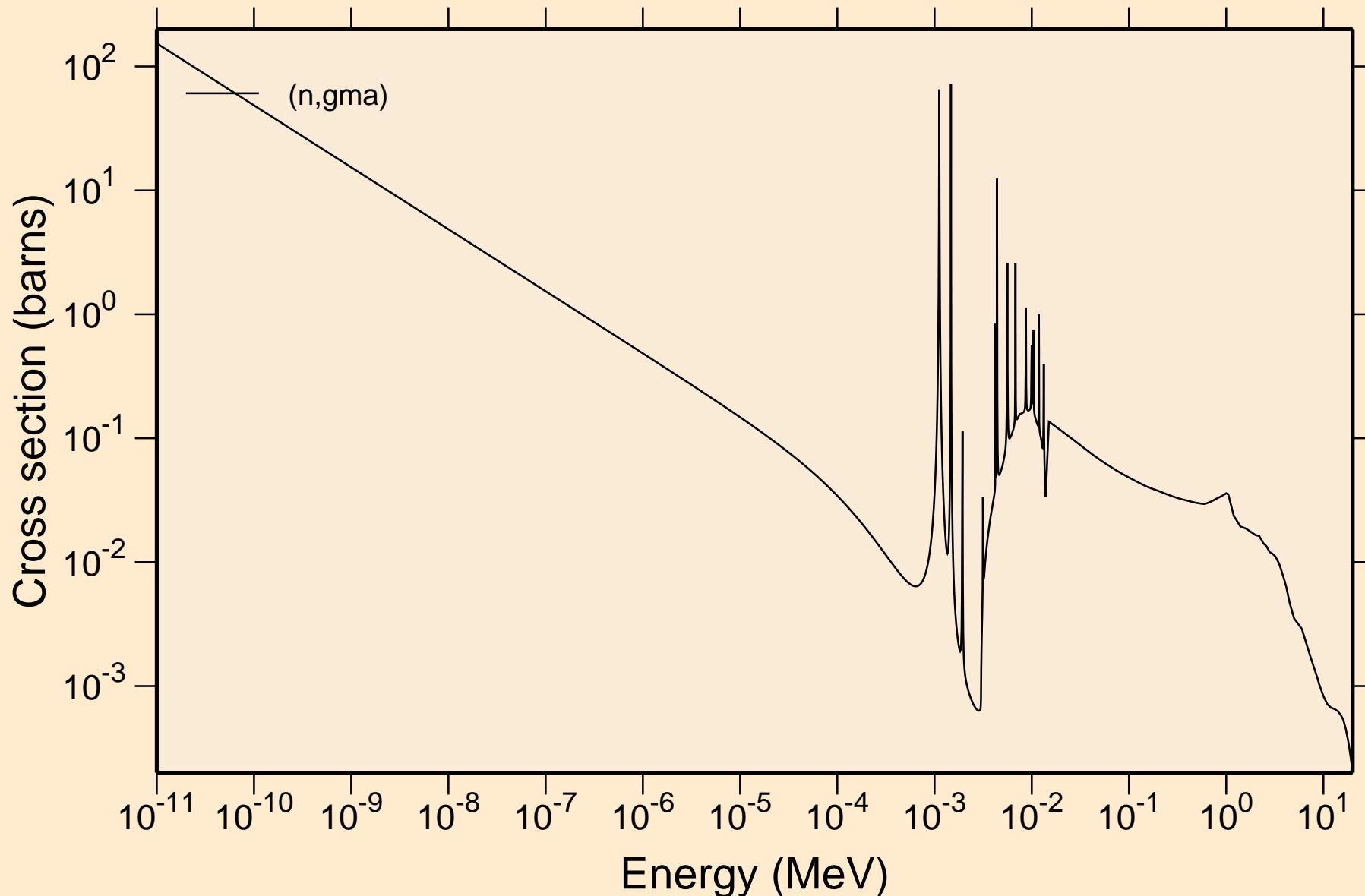
# ADVANCE CALCULATIONS

## Damage



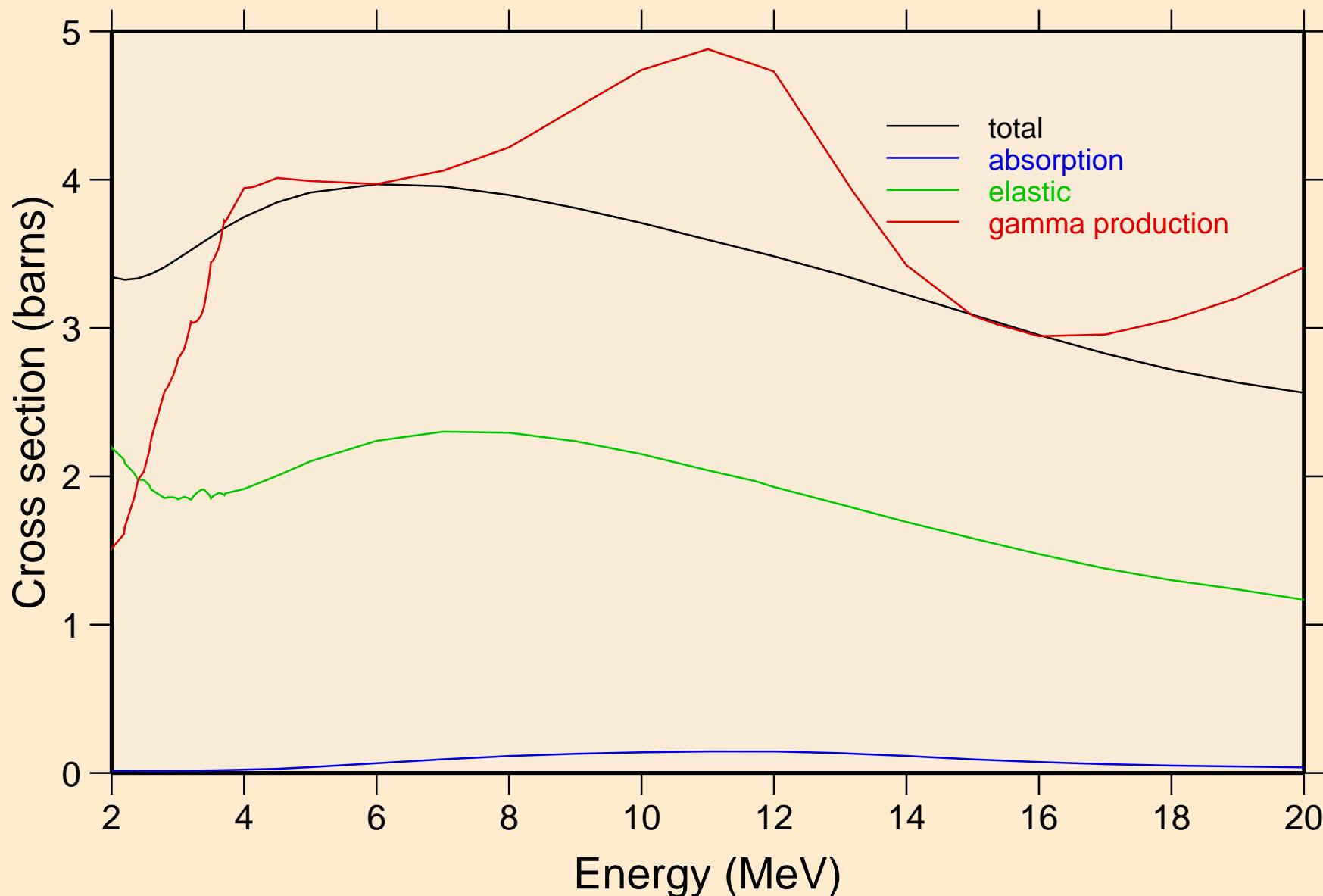
# ADVANCE CALCULATIONS

## Non-threshold reactions



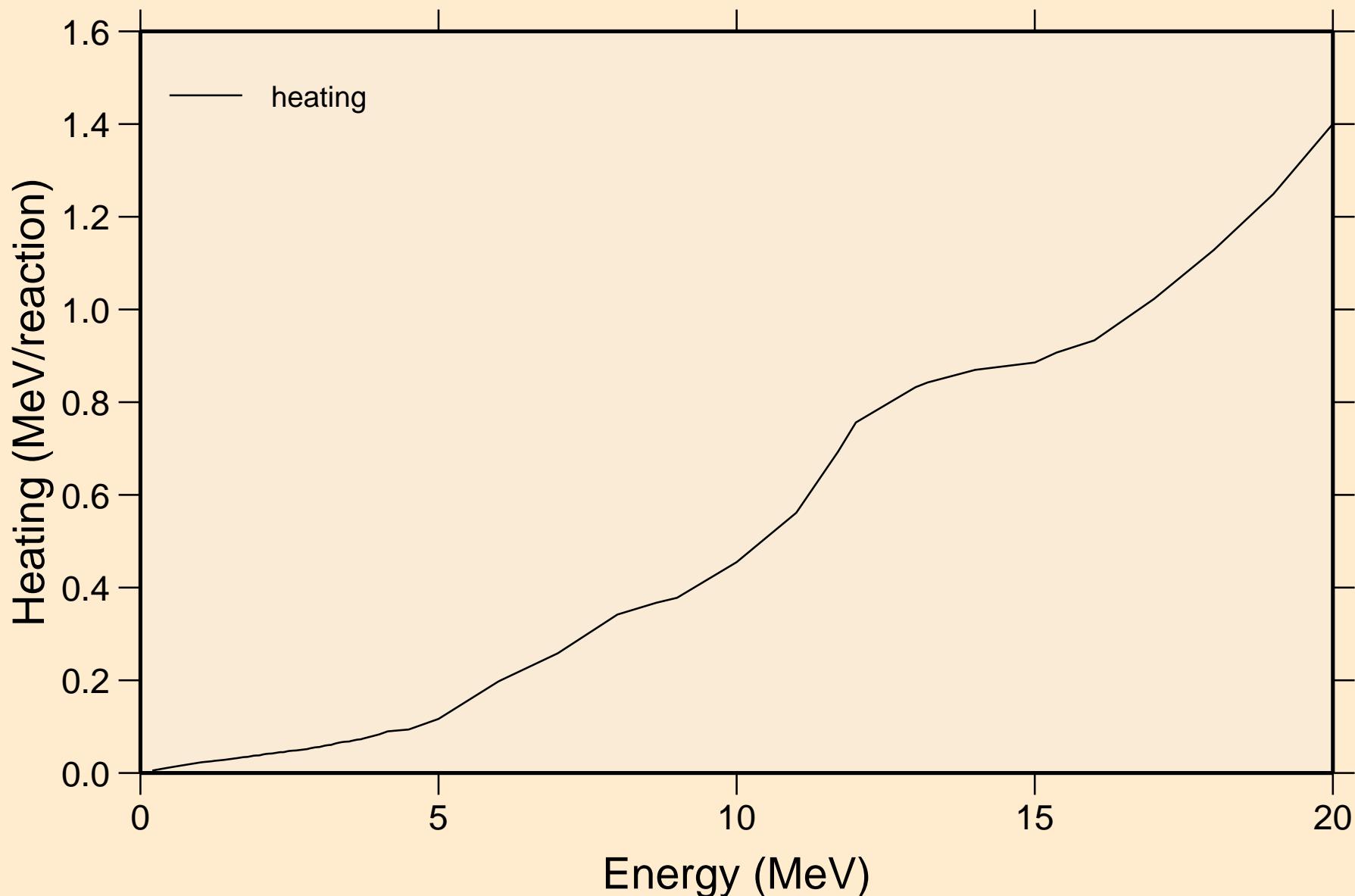
# ADVANCE CALCULATIONS

## Principal cross sections



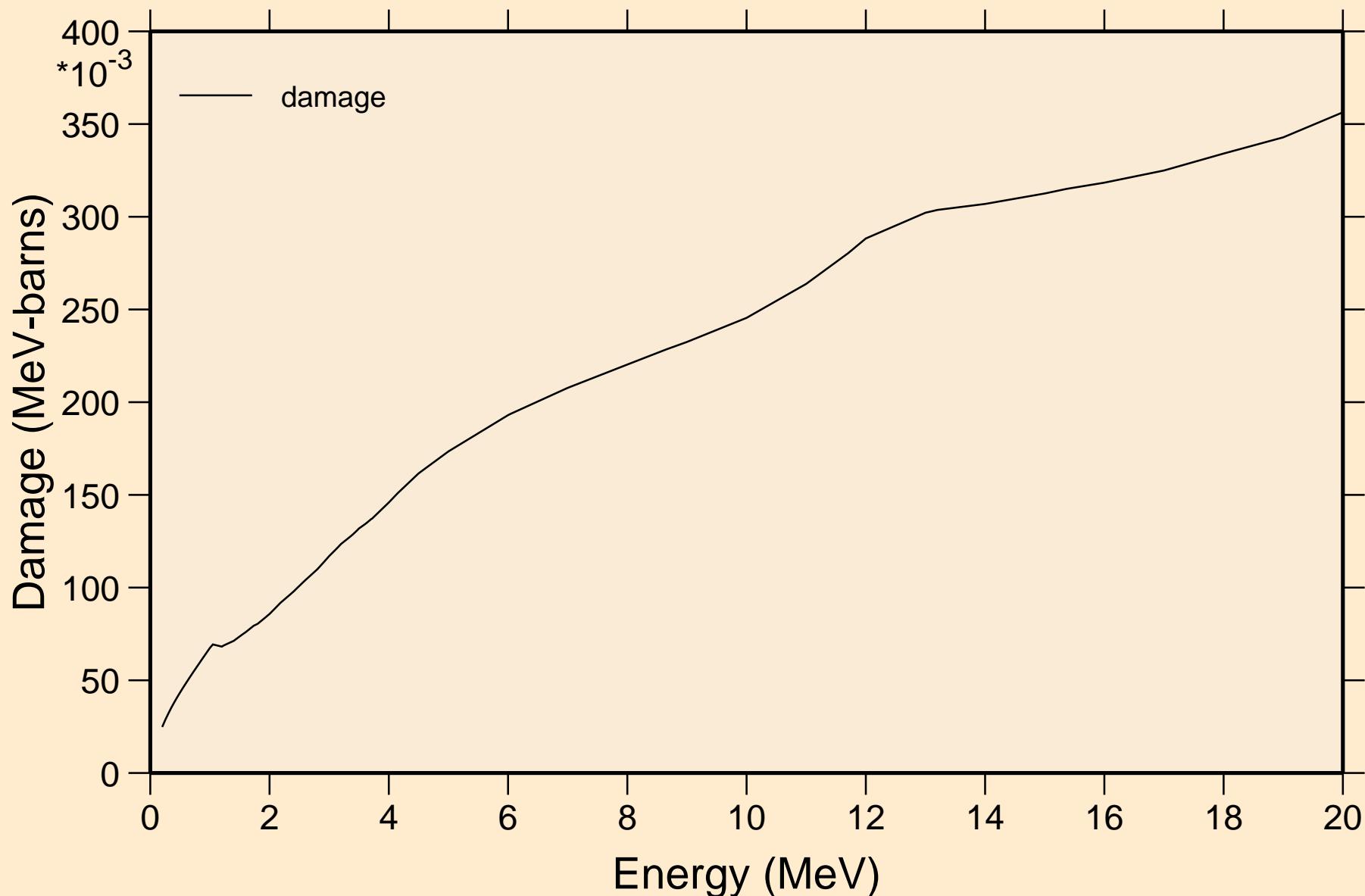
# ADVANCE CALCULATIONS

## Heating



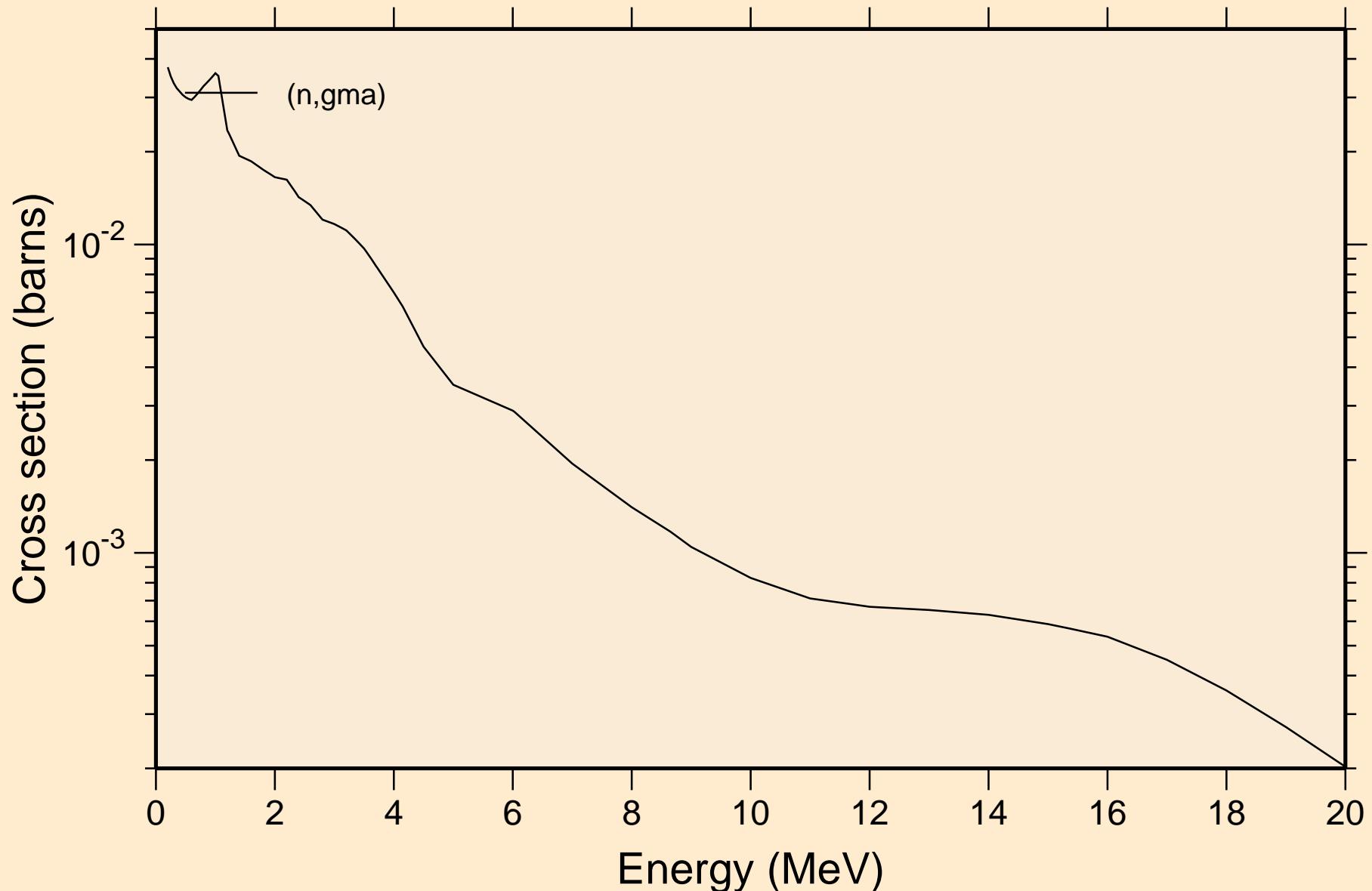
# ADVANCE CALCULATIONS

## Damage



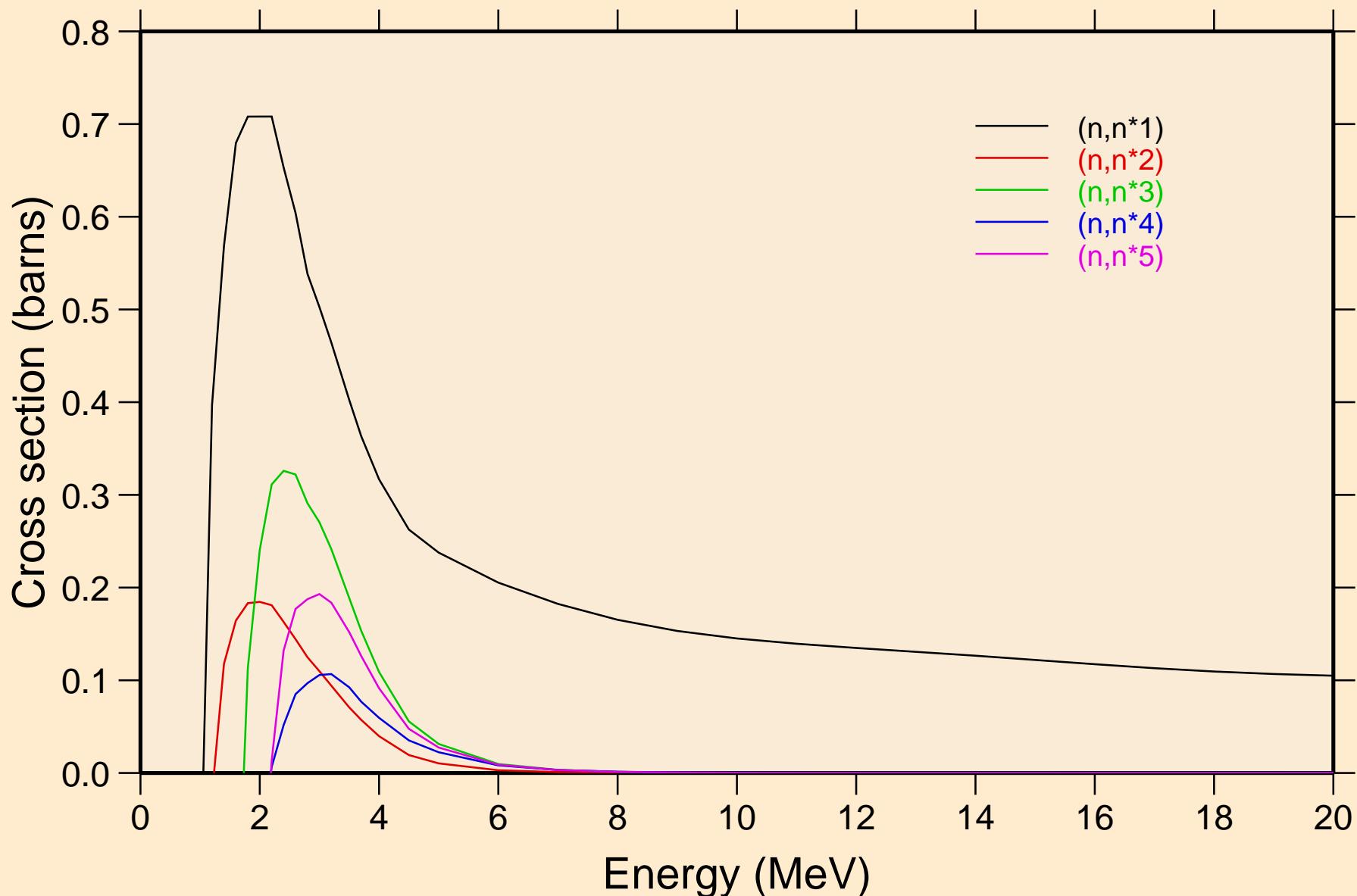
# ADVANCE CALCULATIONS

## Non-threshold reactions



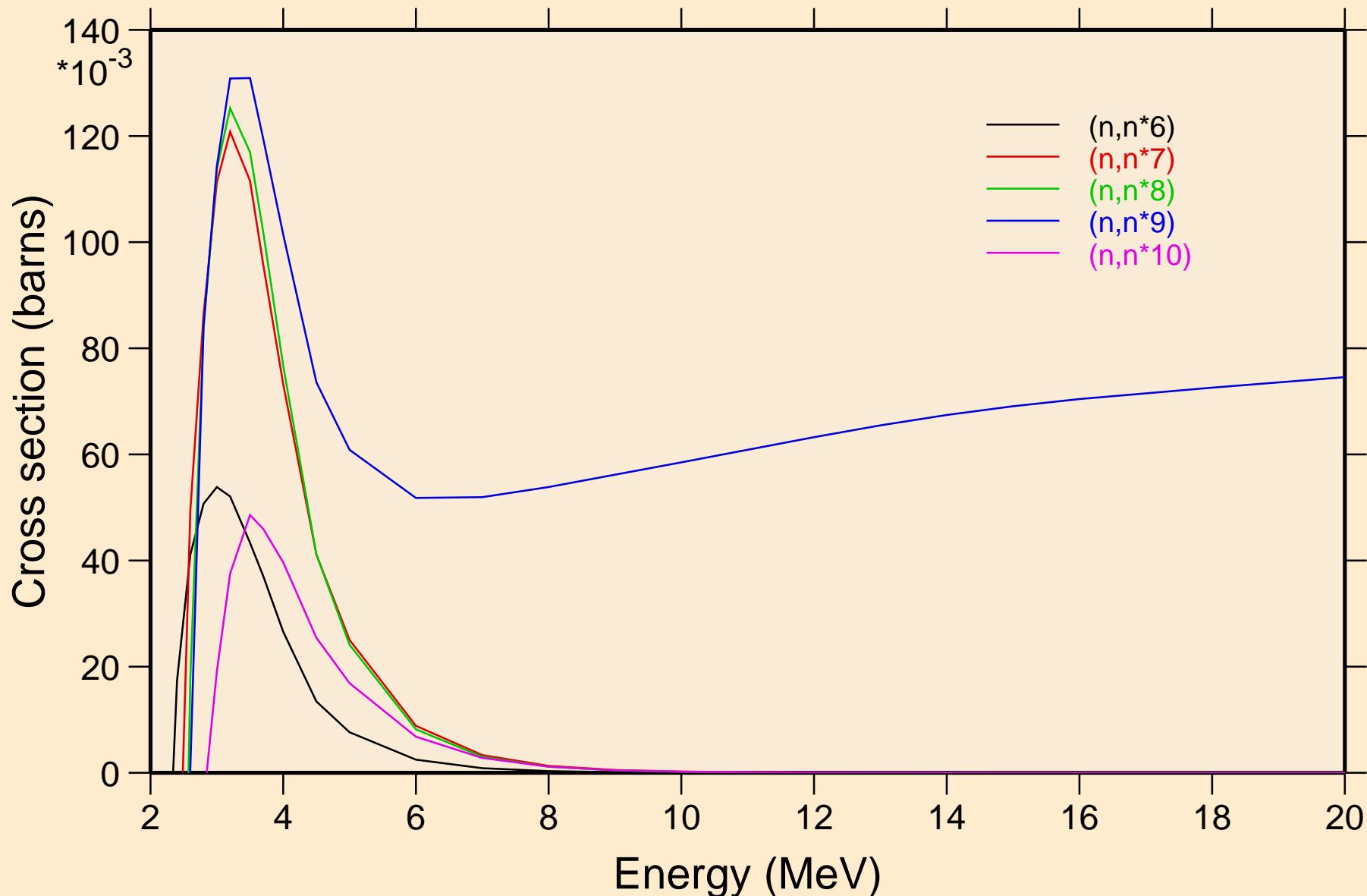
# ADVANCE CALCULATIONS

## Inelastic levels



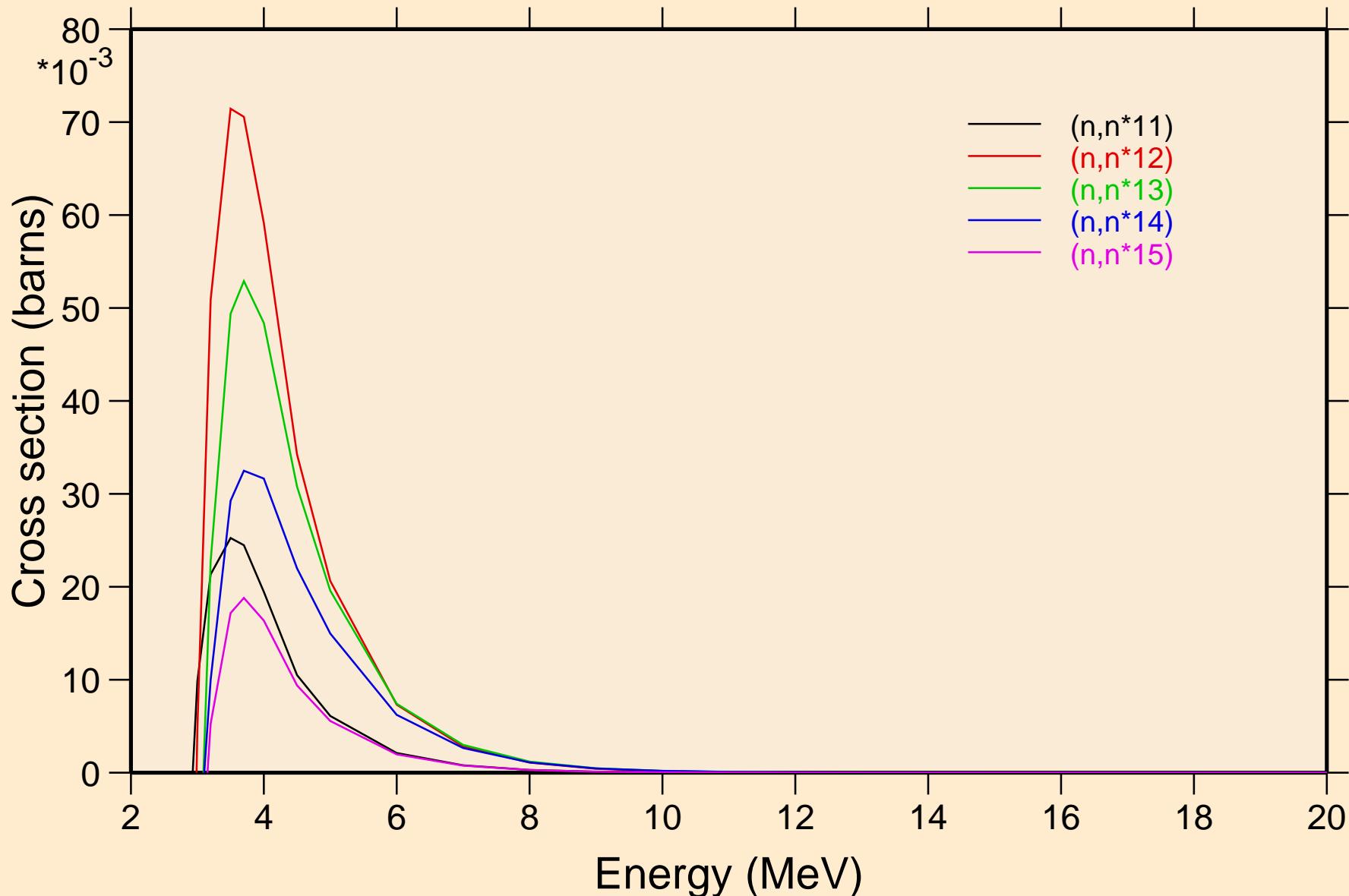
# ADVANCE CALCULATIONS

## Inelastic levels



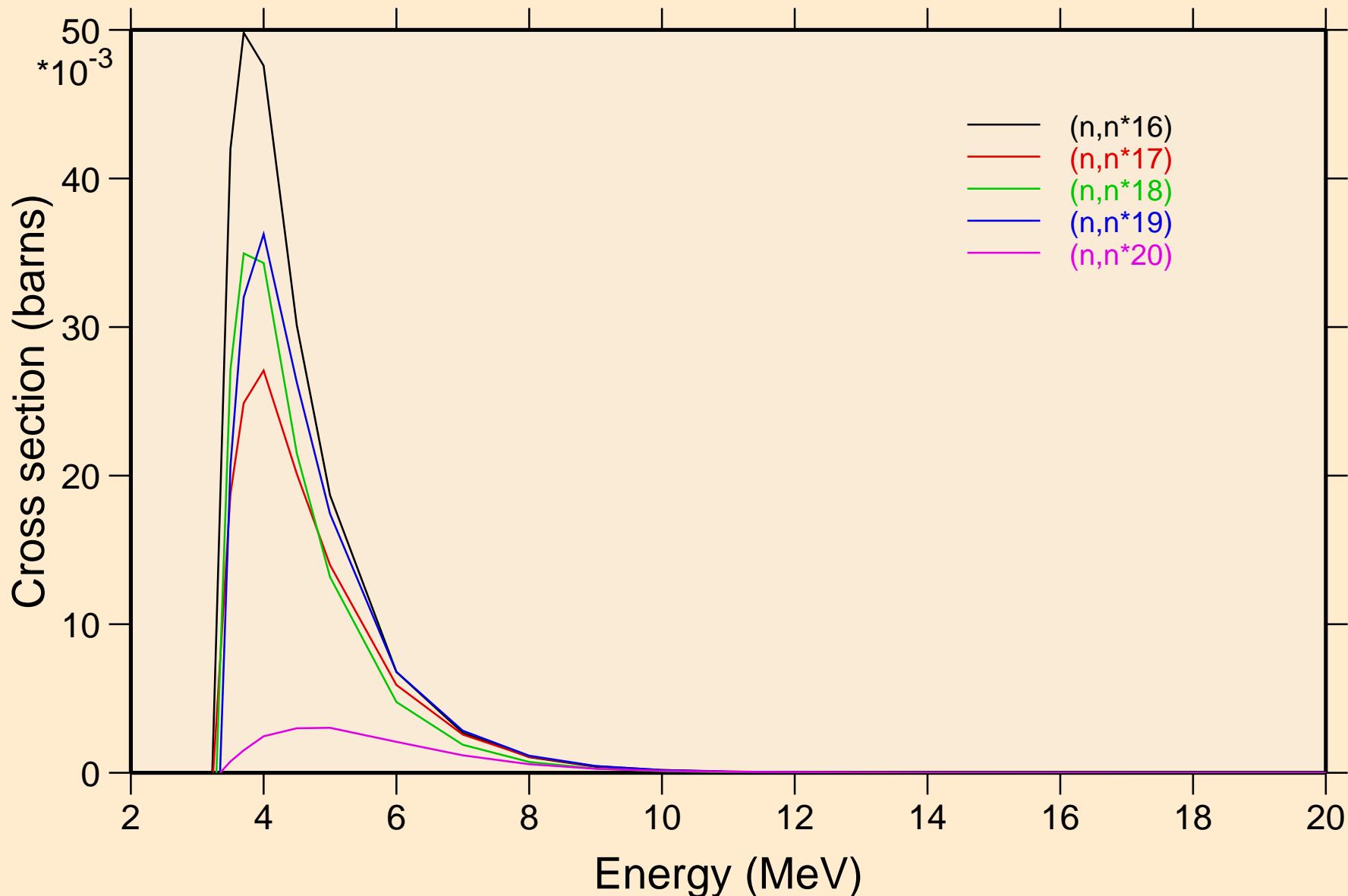
# ADVANCE CALCULATIONS

## Inelastic levels



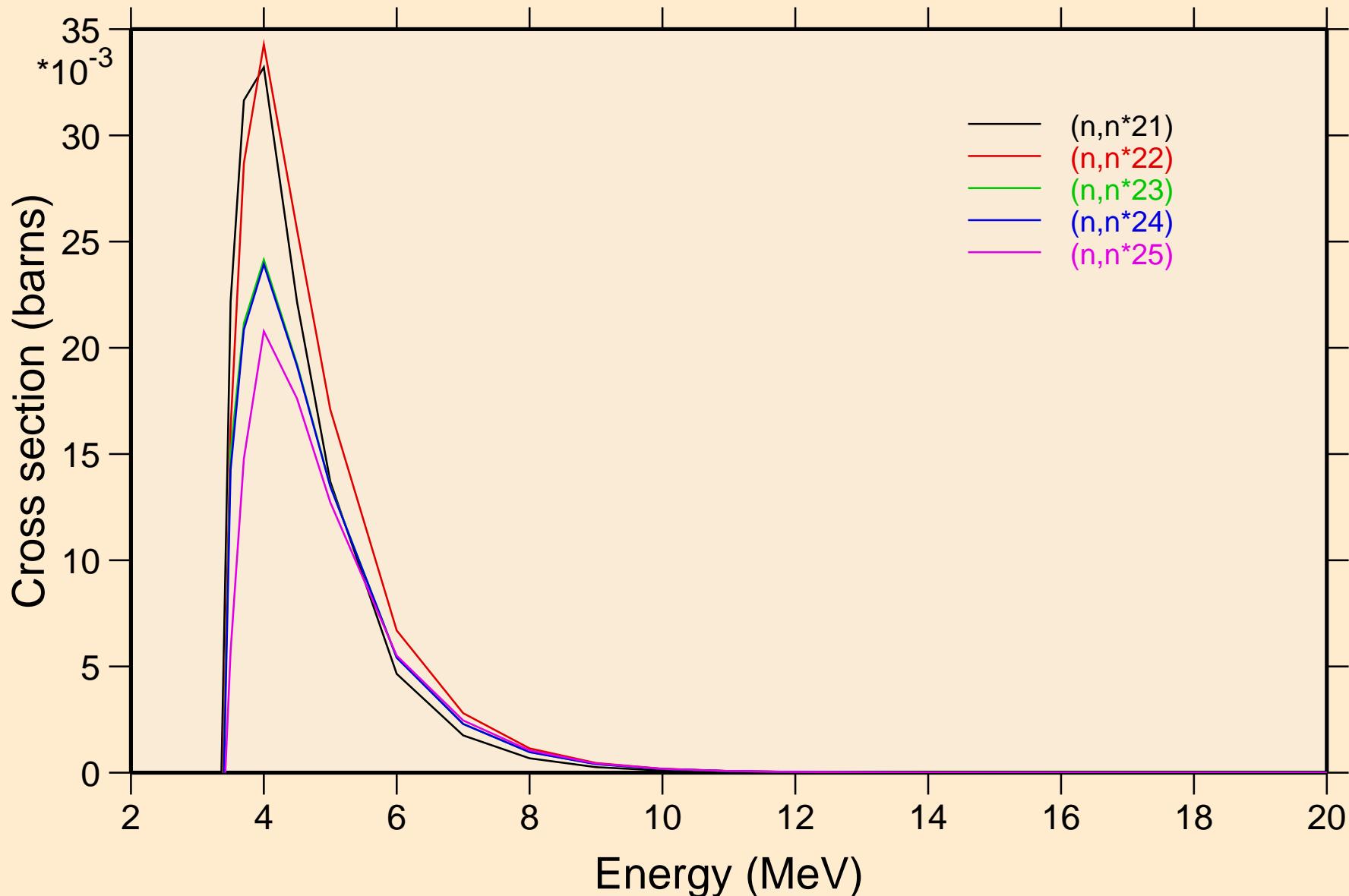
# ADVANCE CALCULATIONS

## Inelastic levels



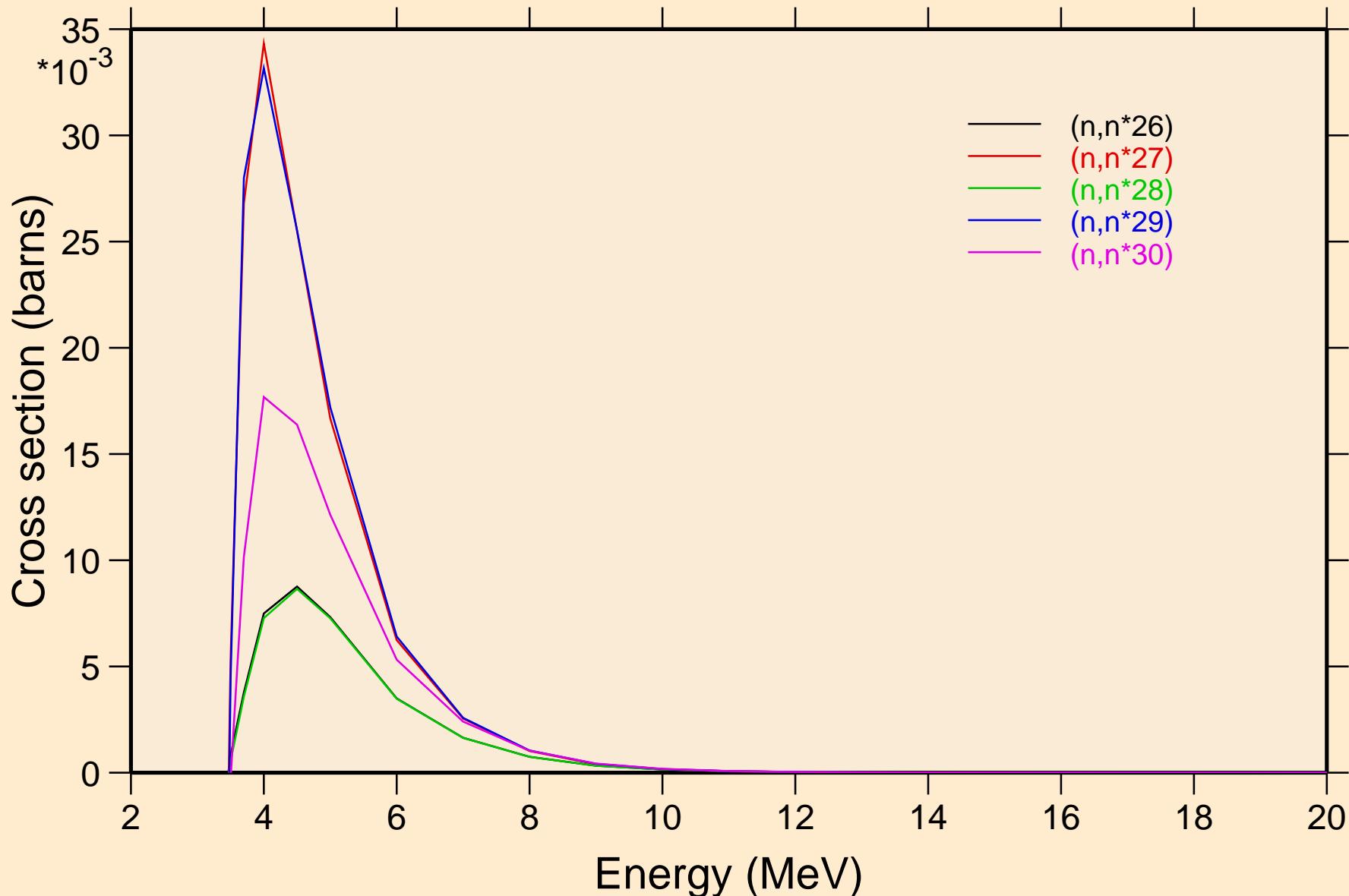
# ADVANCE CALCULATIONS

## Inelastic levels



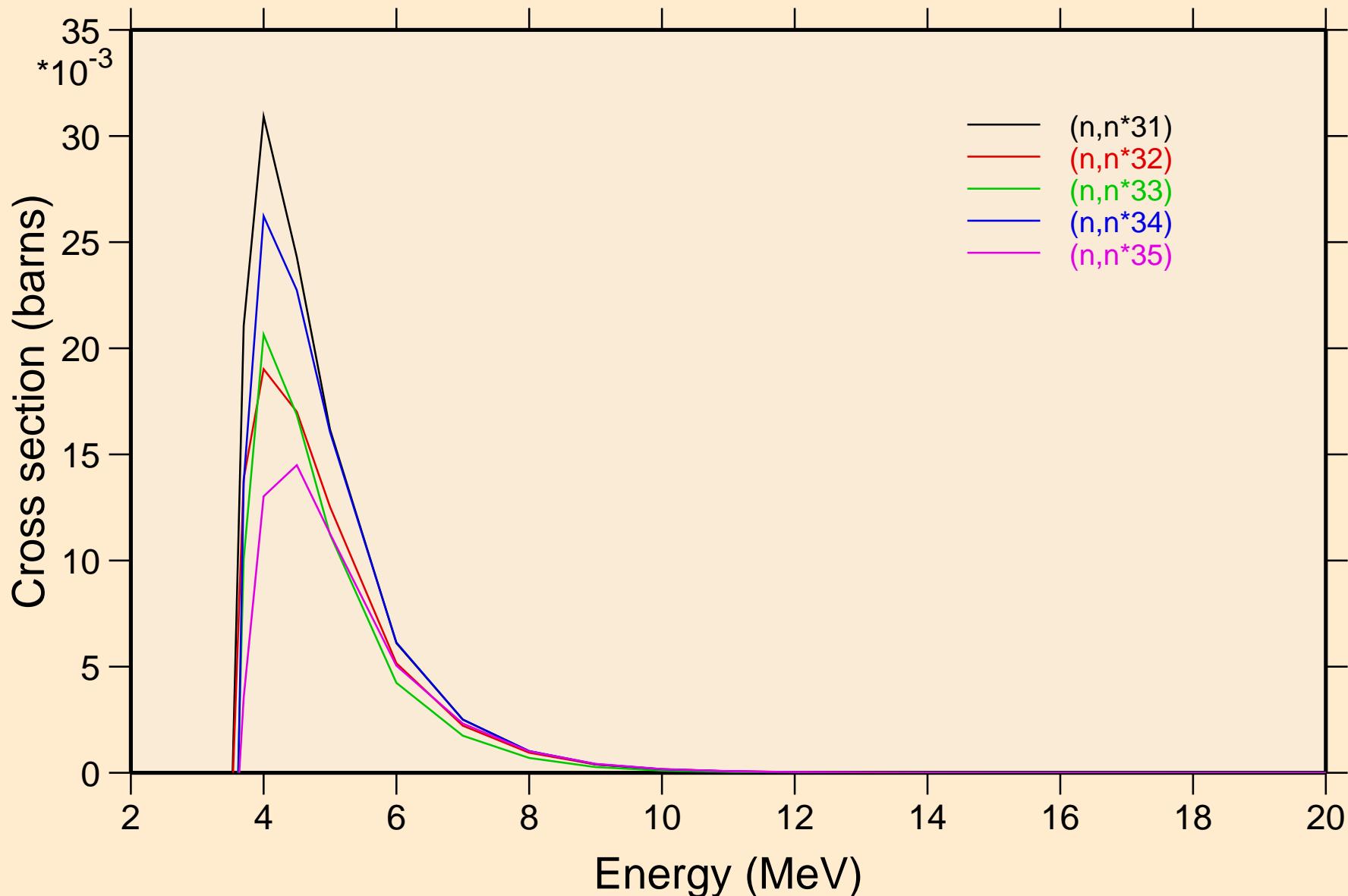
# ADVANCE CALCULATIONS

## Inelastic levels



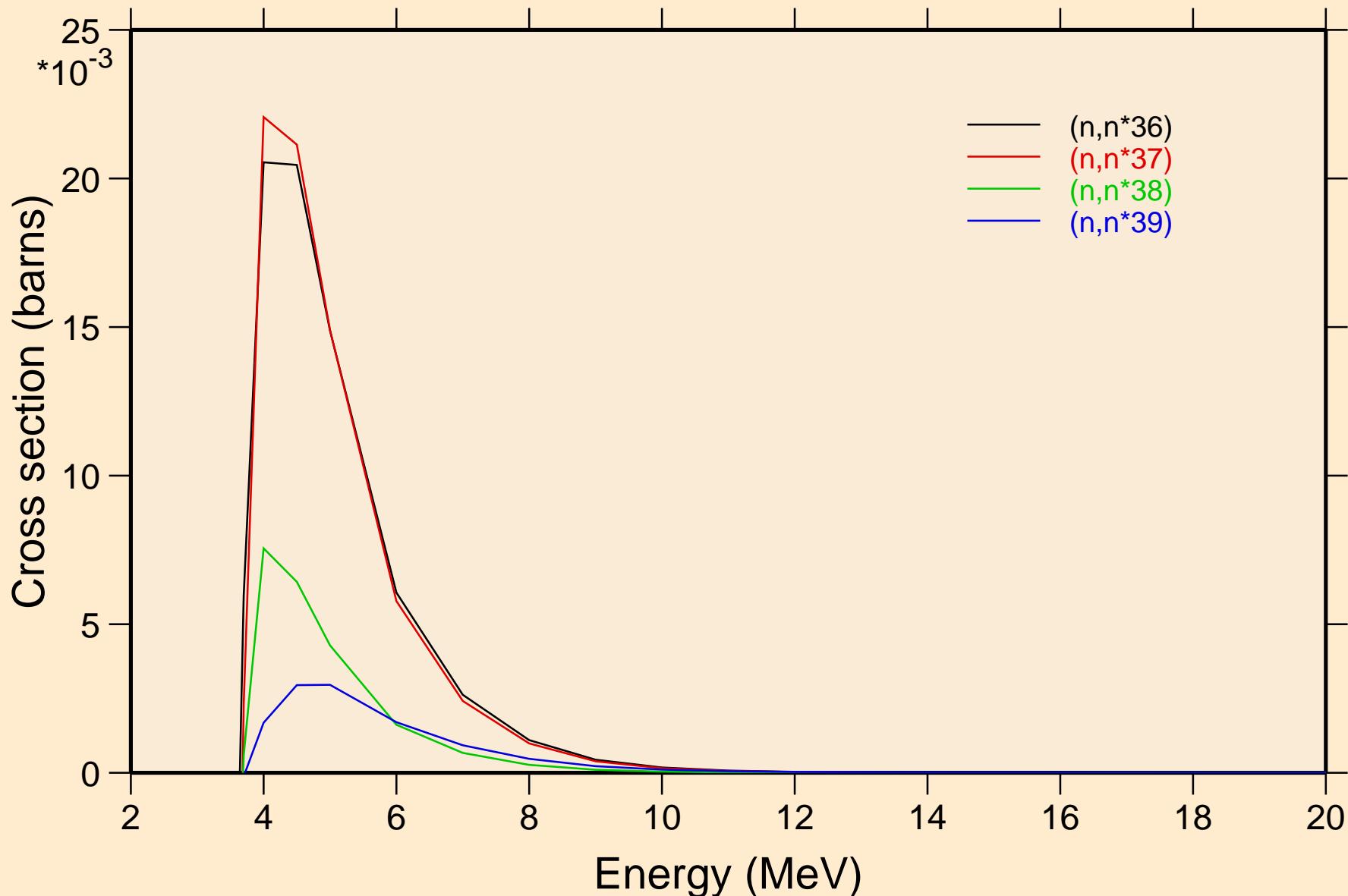
# ADVANCE CALCULATIONS

## Inelastic levels



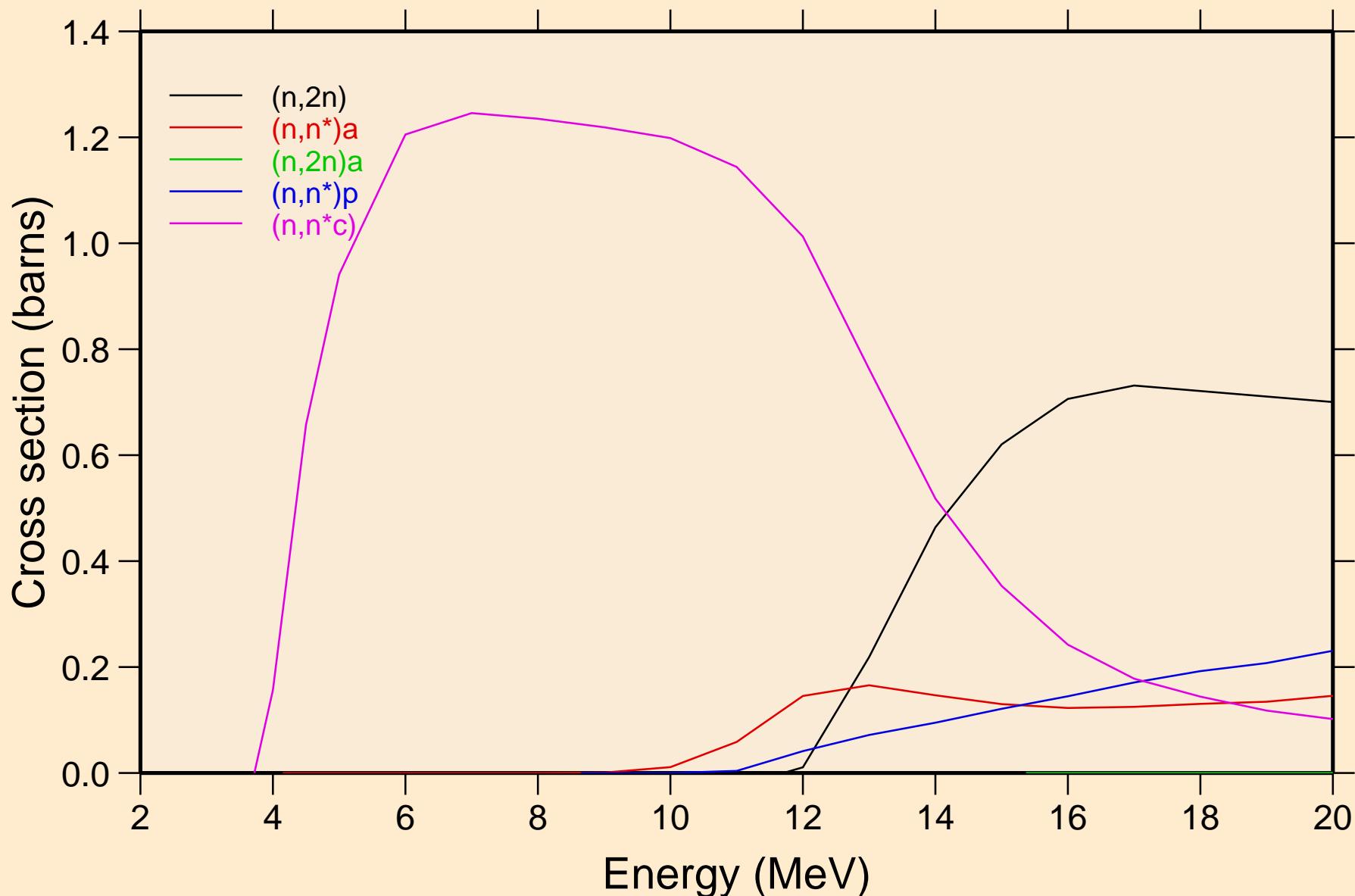
# ADVANCE CALCULATIONS

## Inelastic levels



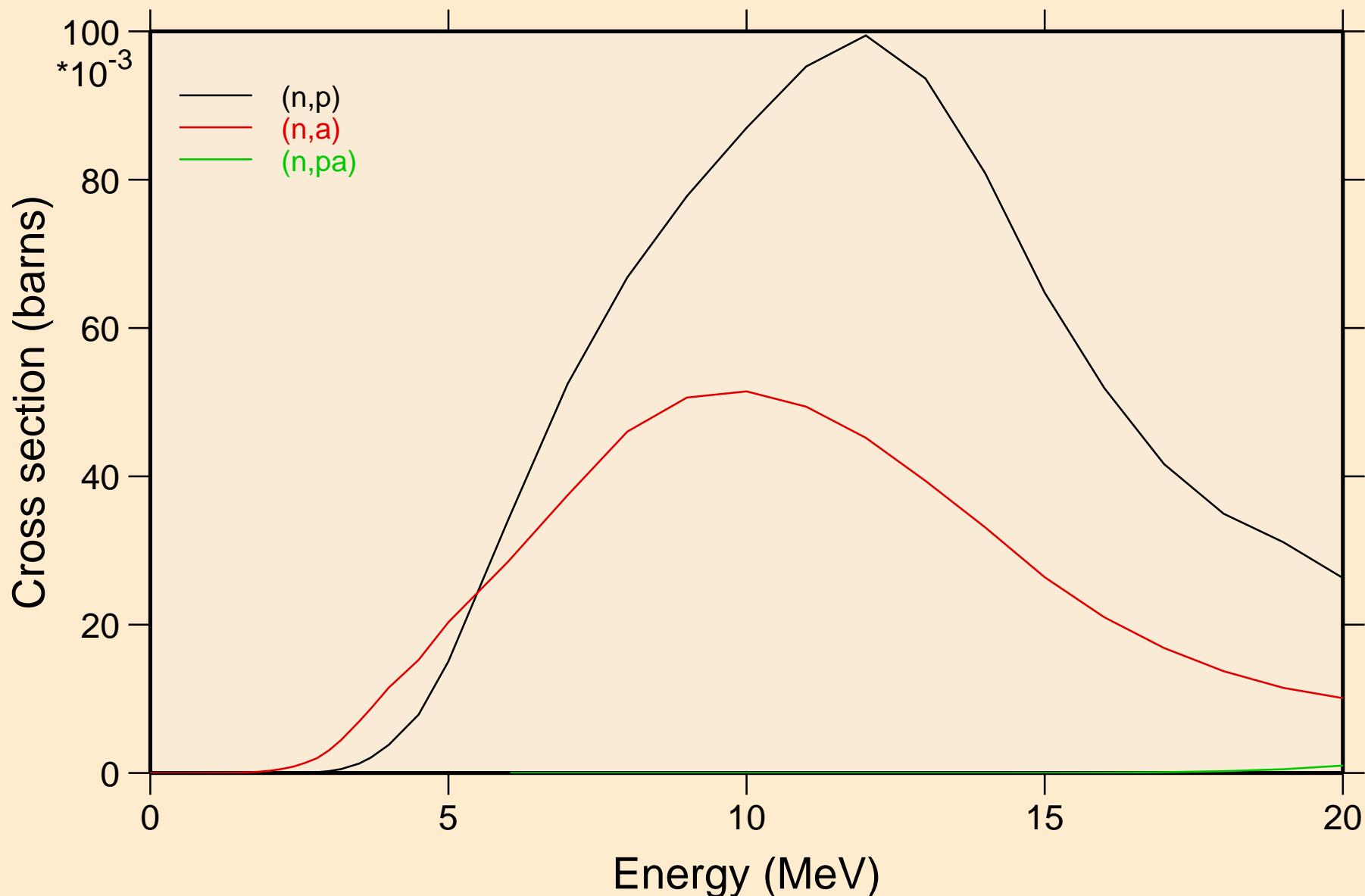
# ADVANCE CALCULATIONS

## Threshold reactions



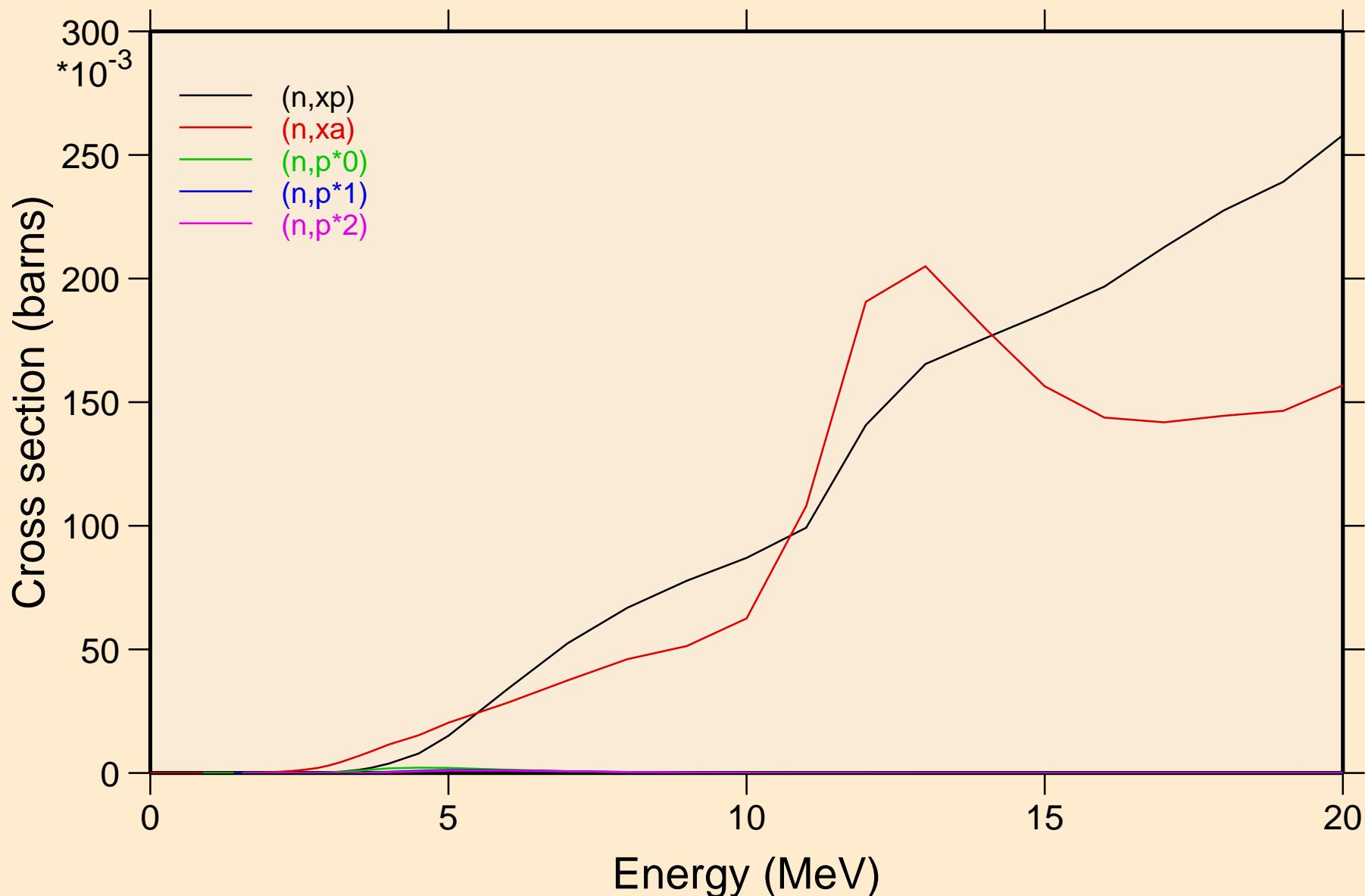
# ADVANCE CALCULATIONS

## Threshold reactions



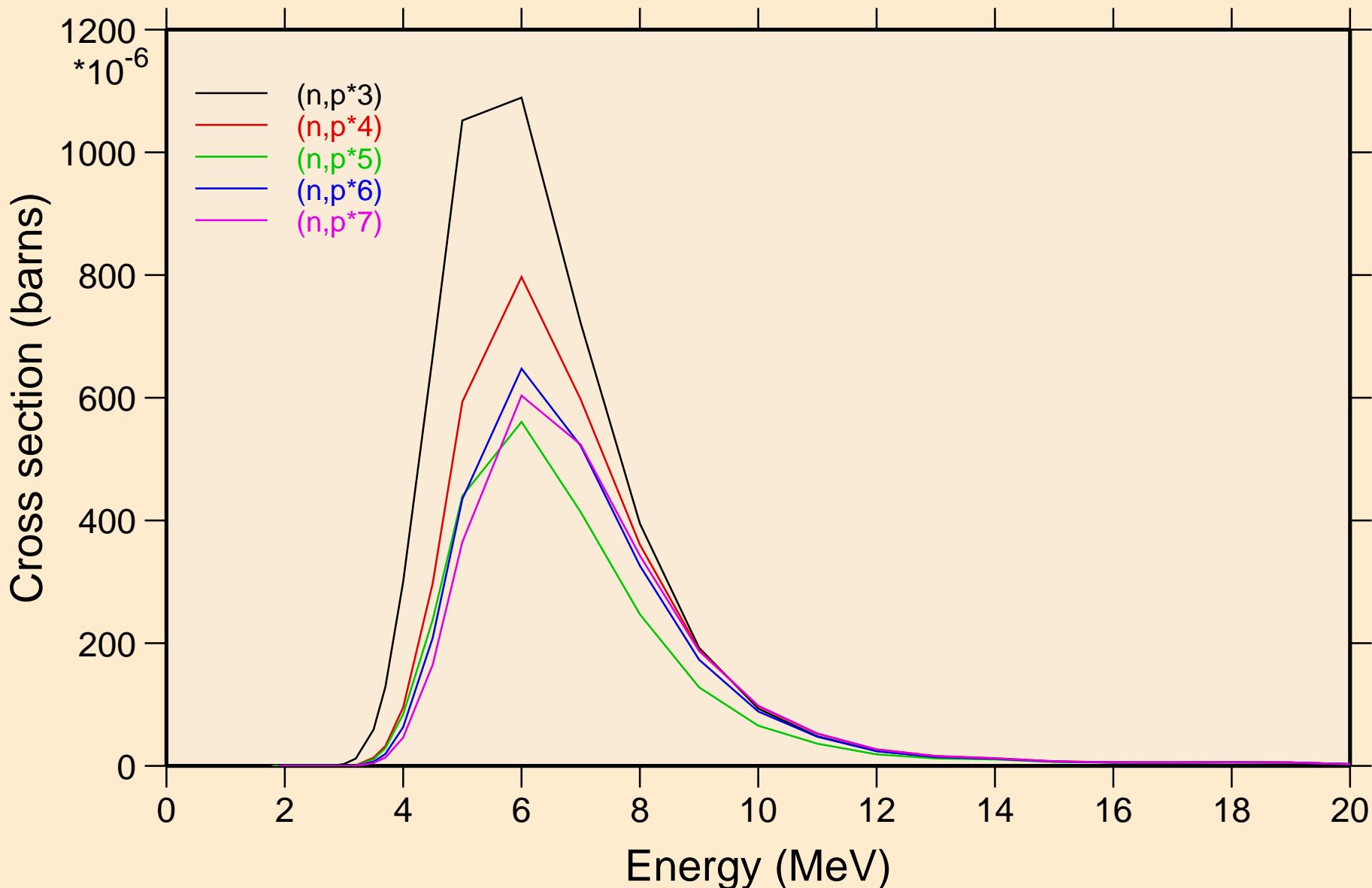
# ADVANCE CALCULATIONS

## Threshold reactions



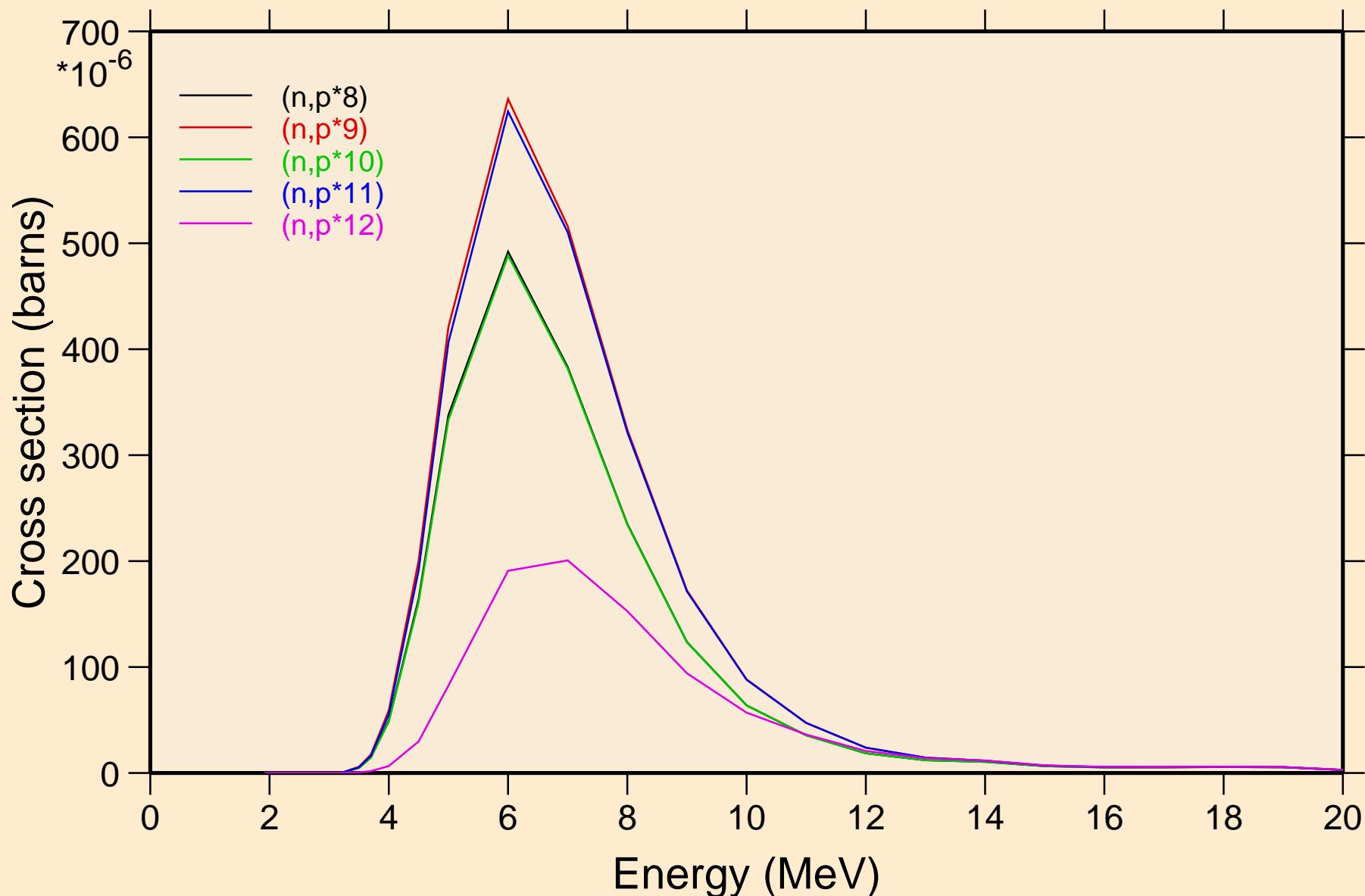
# ADVANCE CALCULATIONS

## Threshold reactions



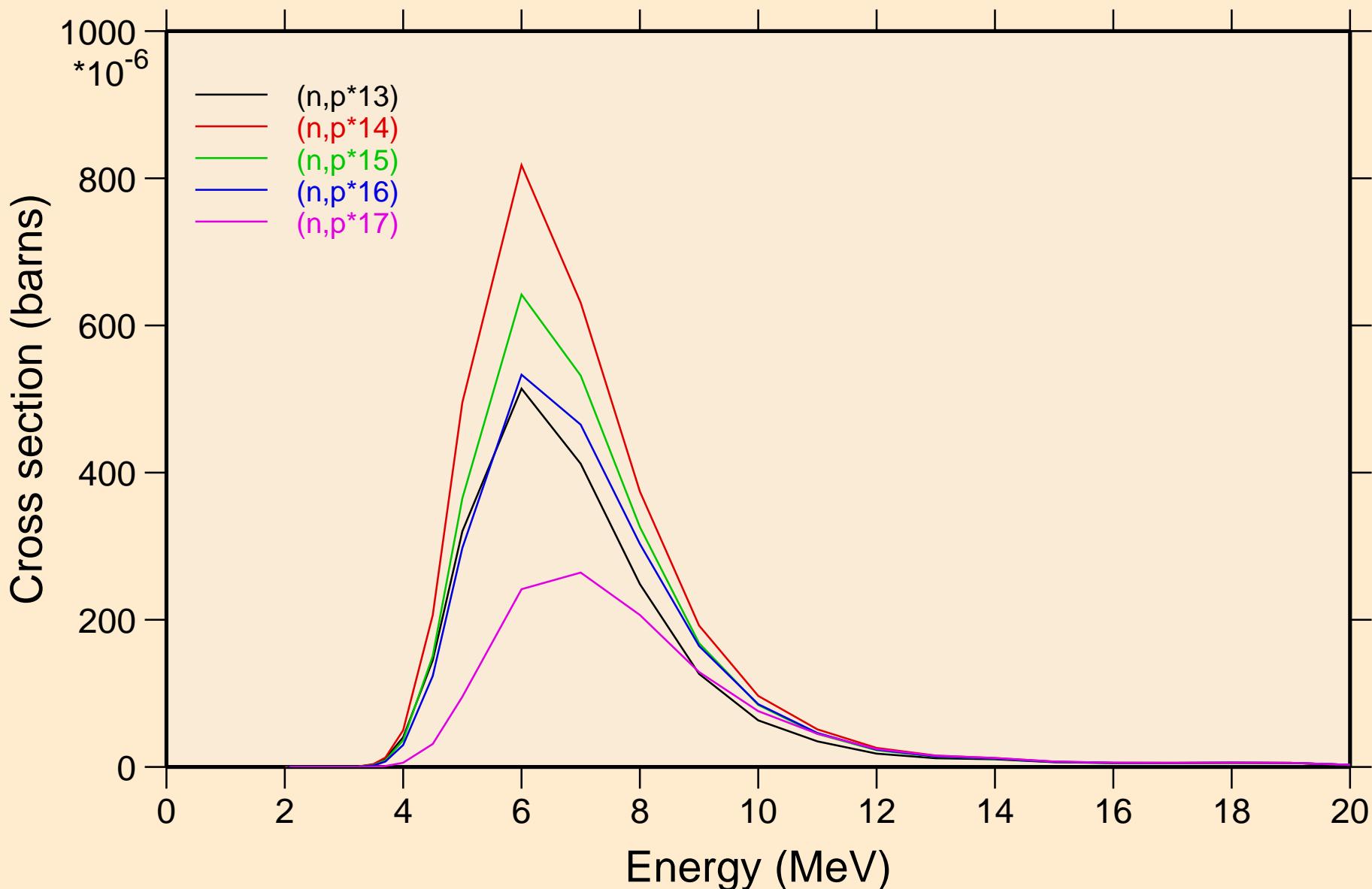
# ADVANCE CALCULATIONS

## Threshold reactions



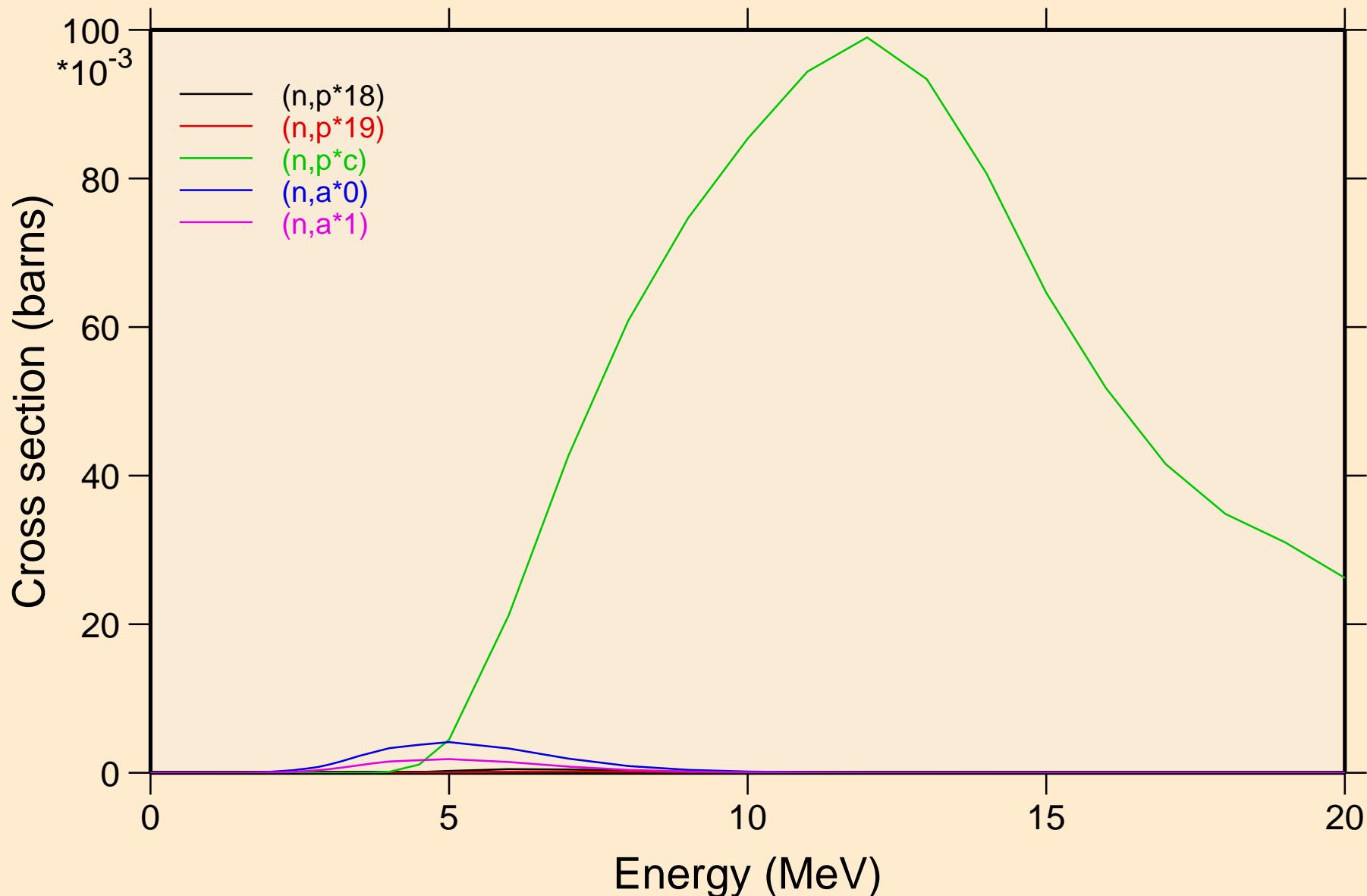
# ADVANCE CALCULATIONS

## Threshold reactions



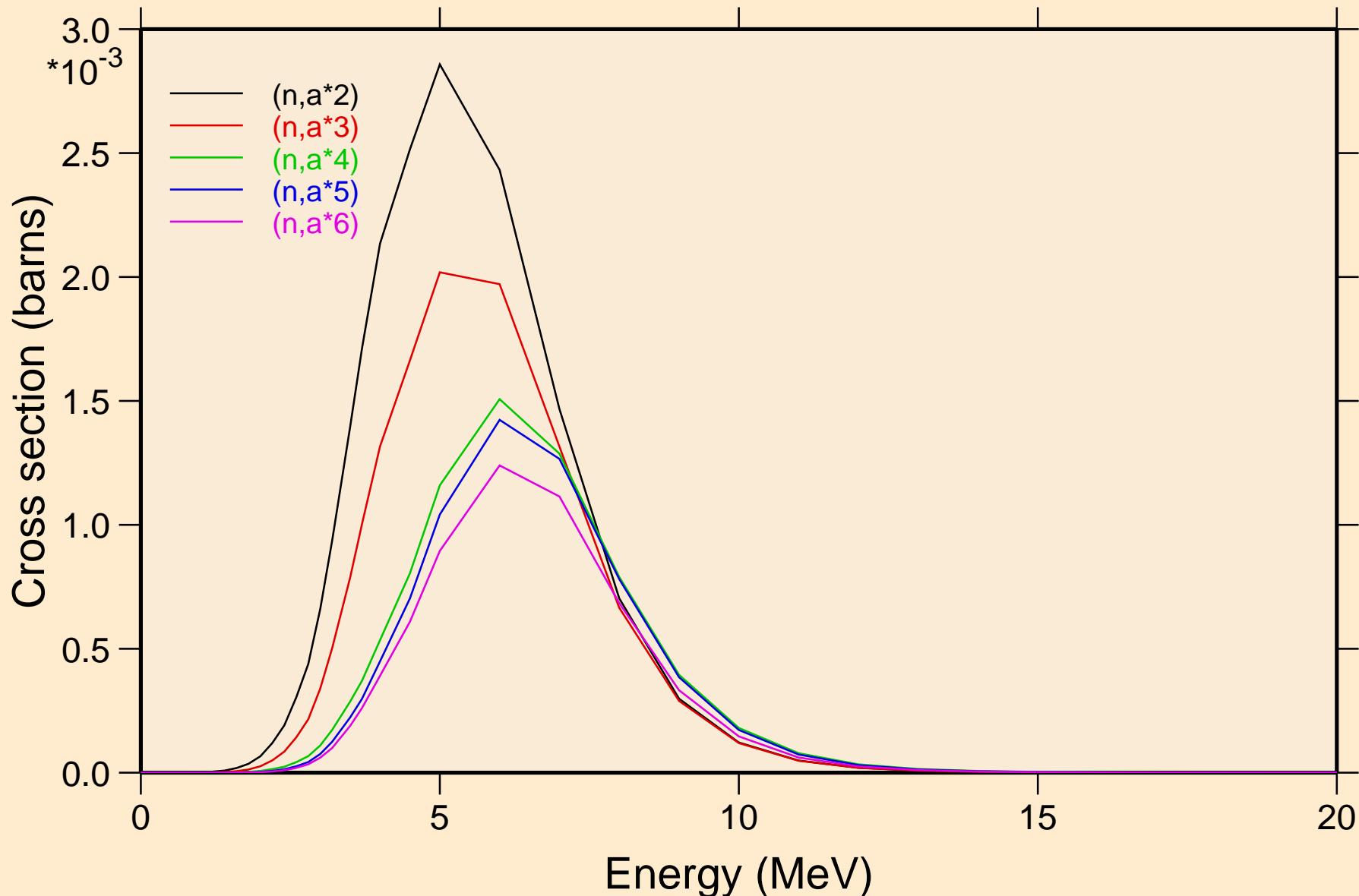
# ADVANCE CALCULATIONS

## Threshold reactions



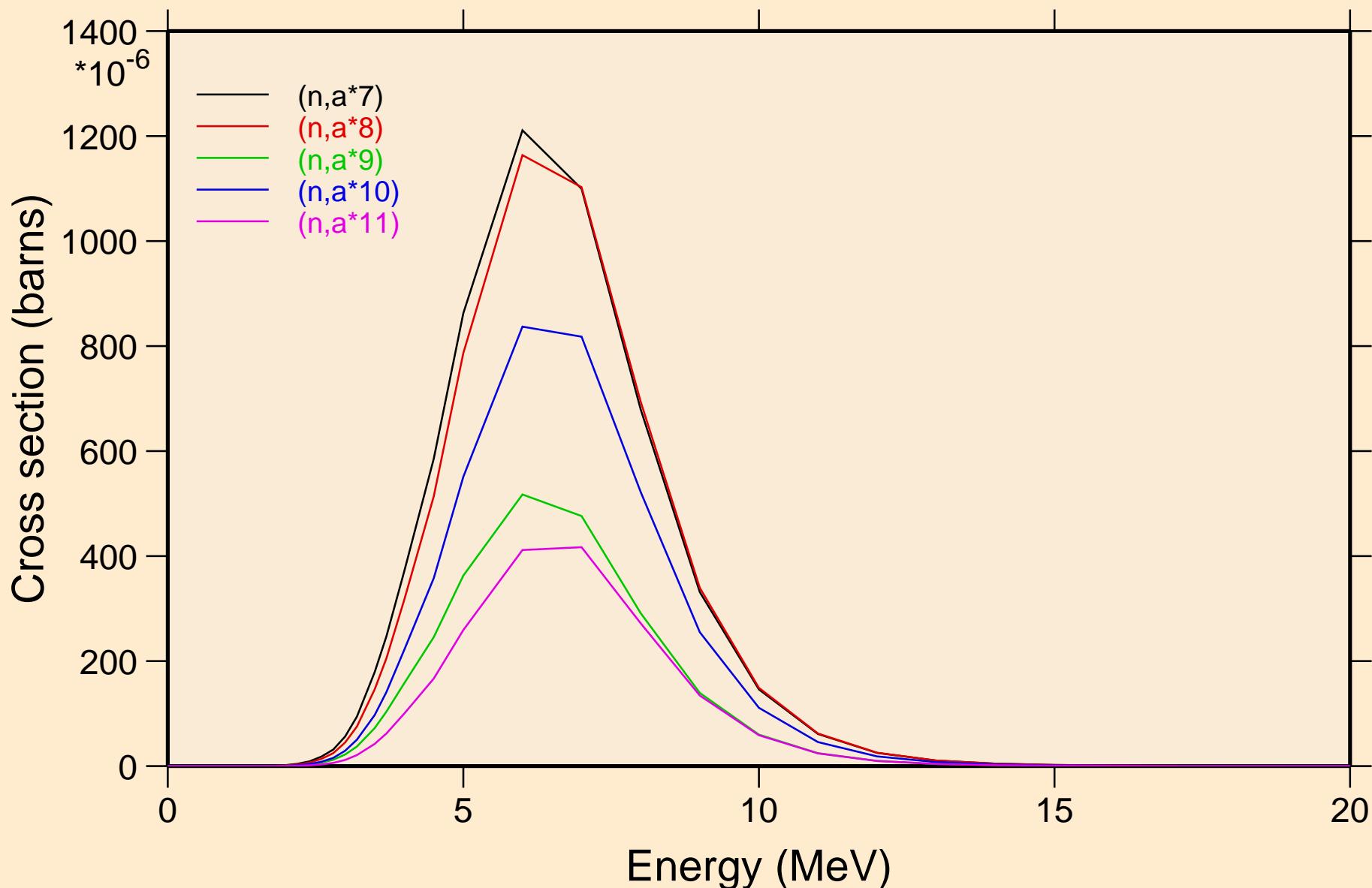
# ADVANCE CALCULATIONS

## Threshold reactions



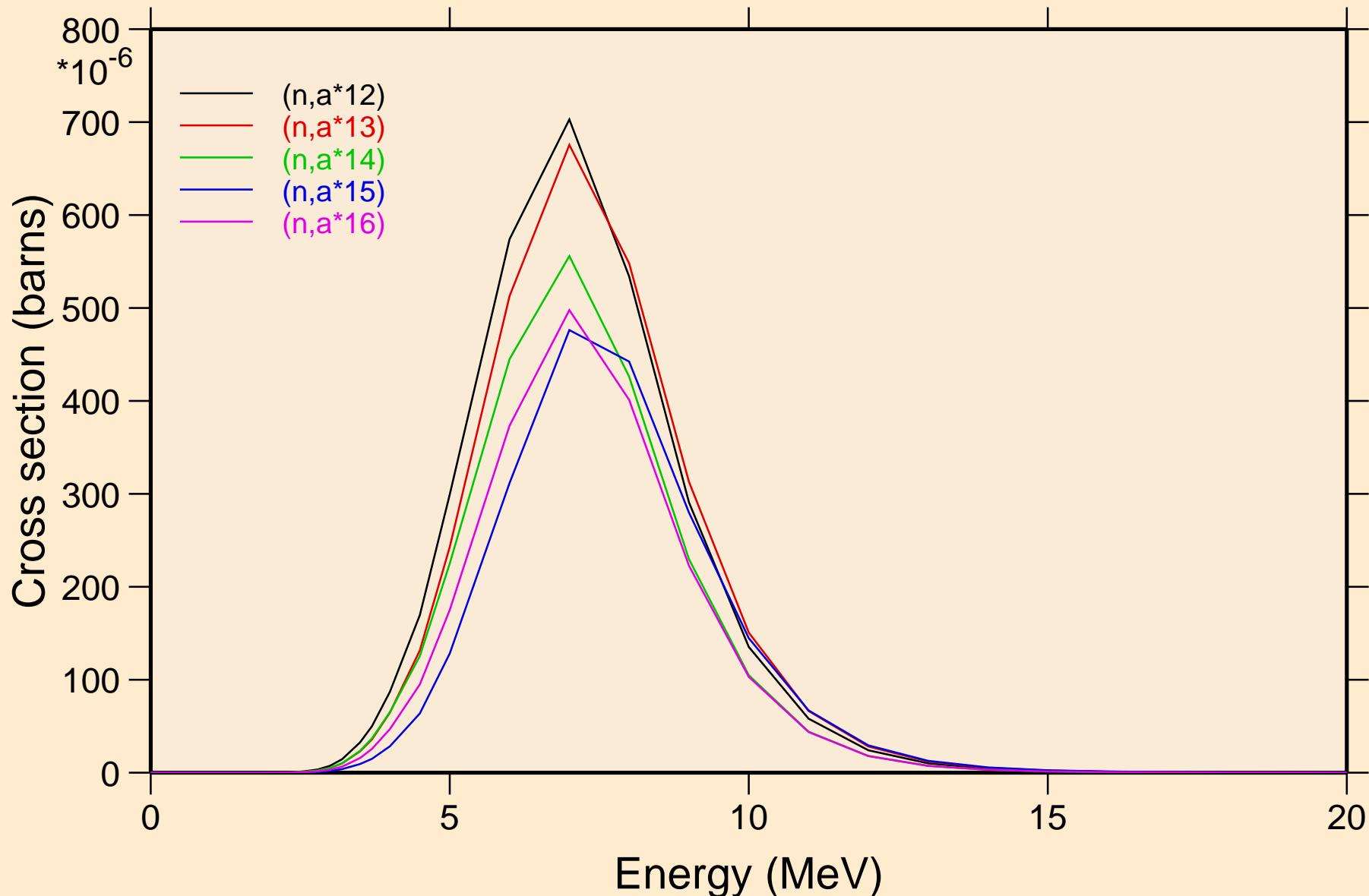
# ADVANCE CALCULATIONS

## Threshold reactions



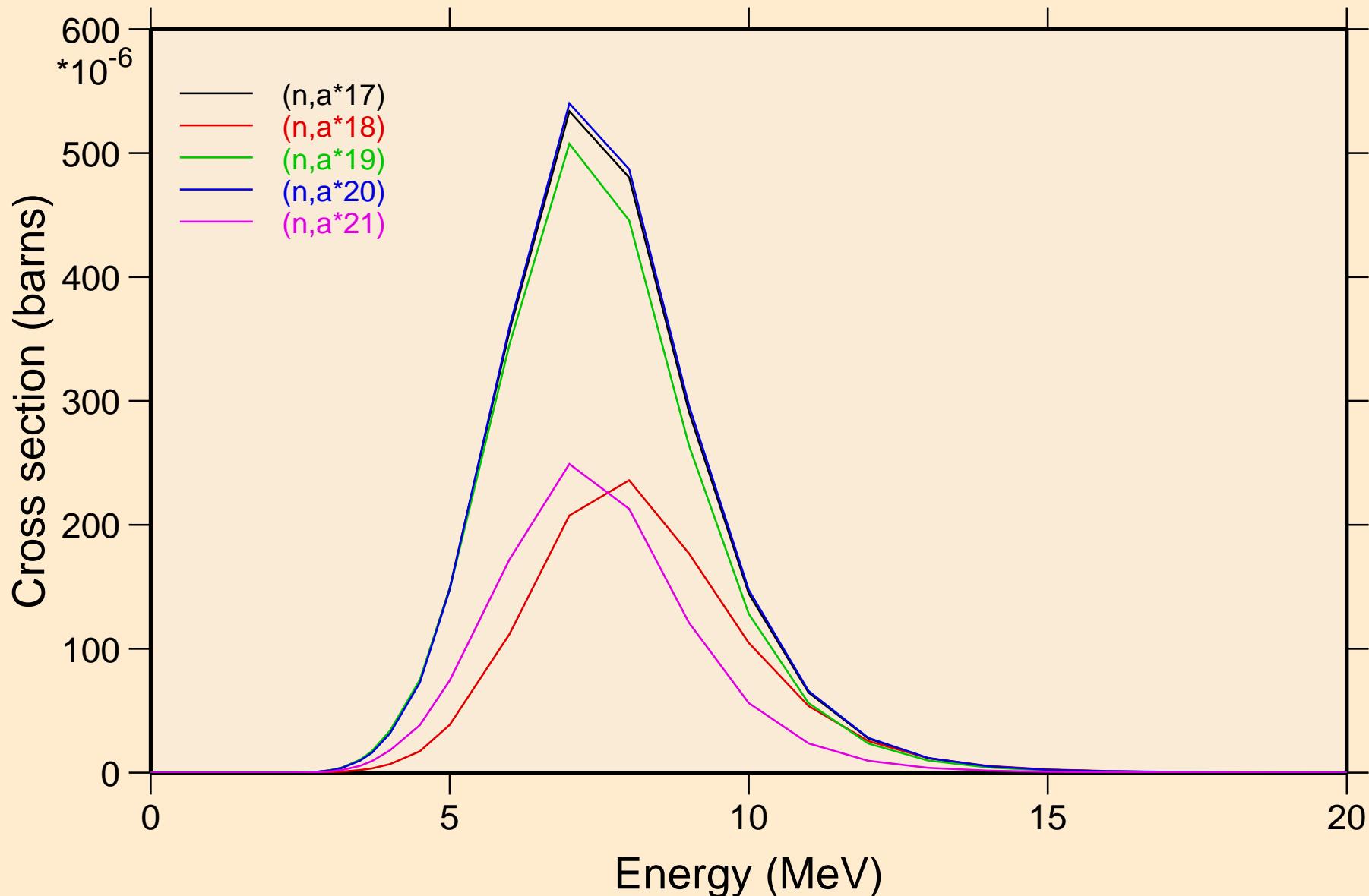
# ADVANCE CALCULATIONS

## Threshold reactions



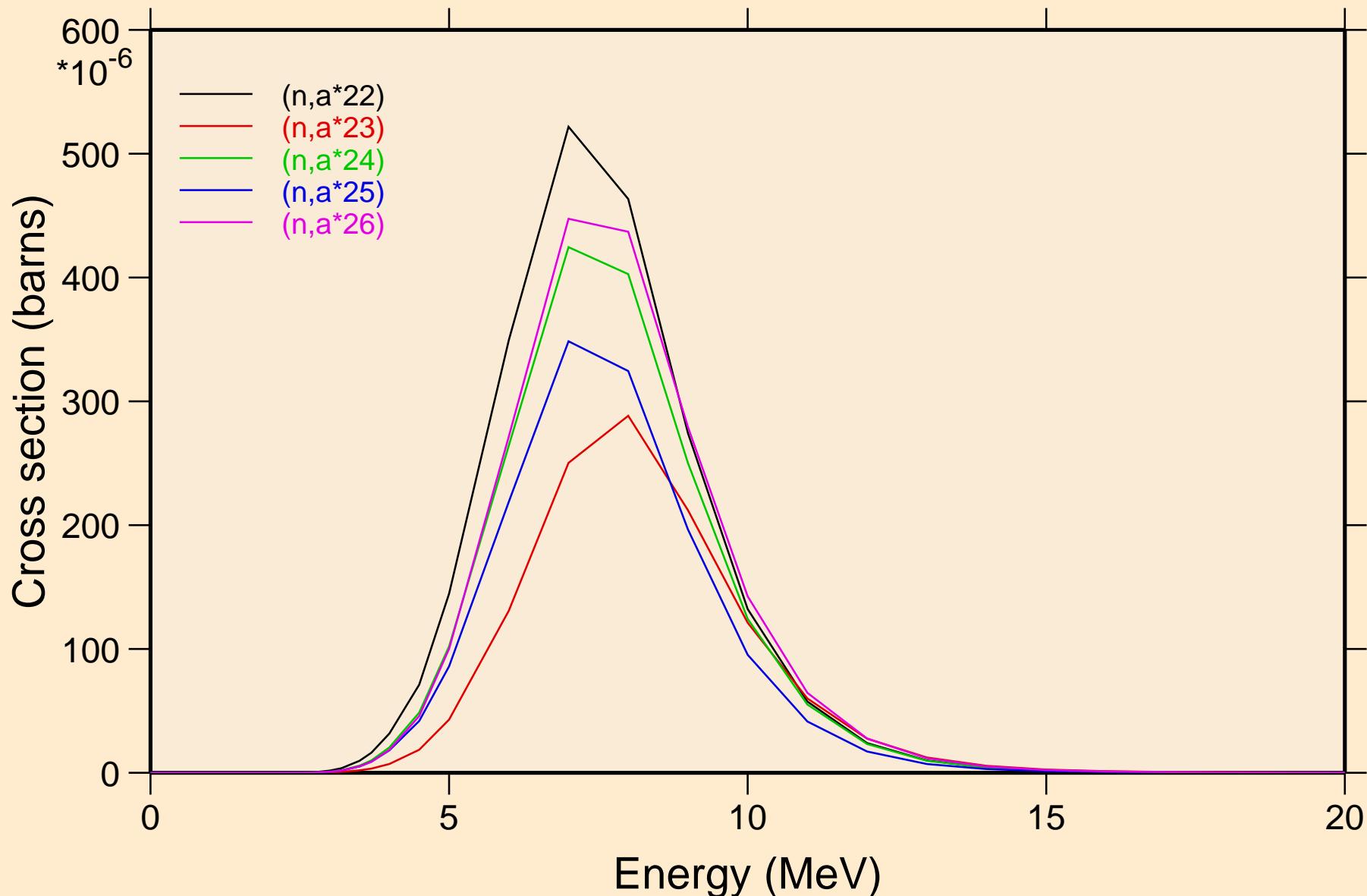
# ADVANCE CALCULATIONS

## Threshold reactions



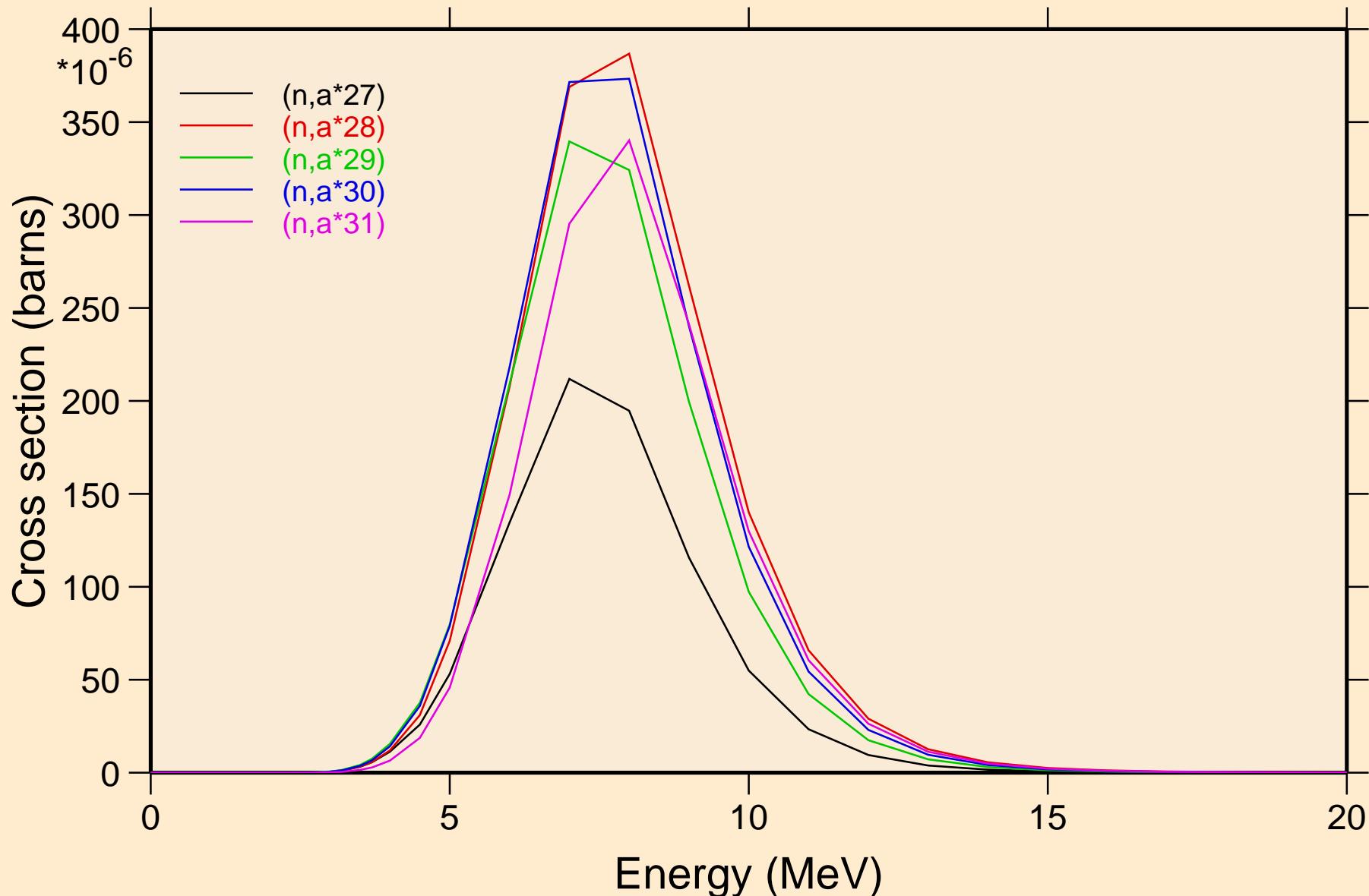
# ADVANCE CALCULATIONS

## Threshold reactions



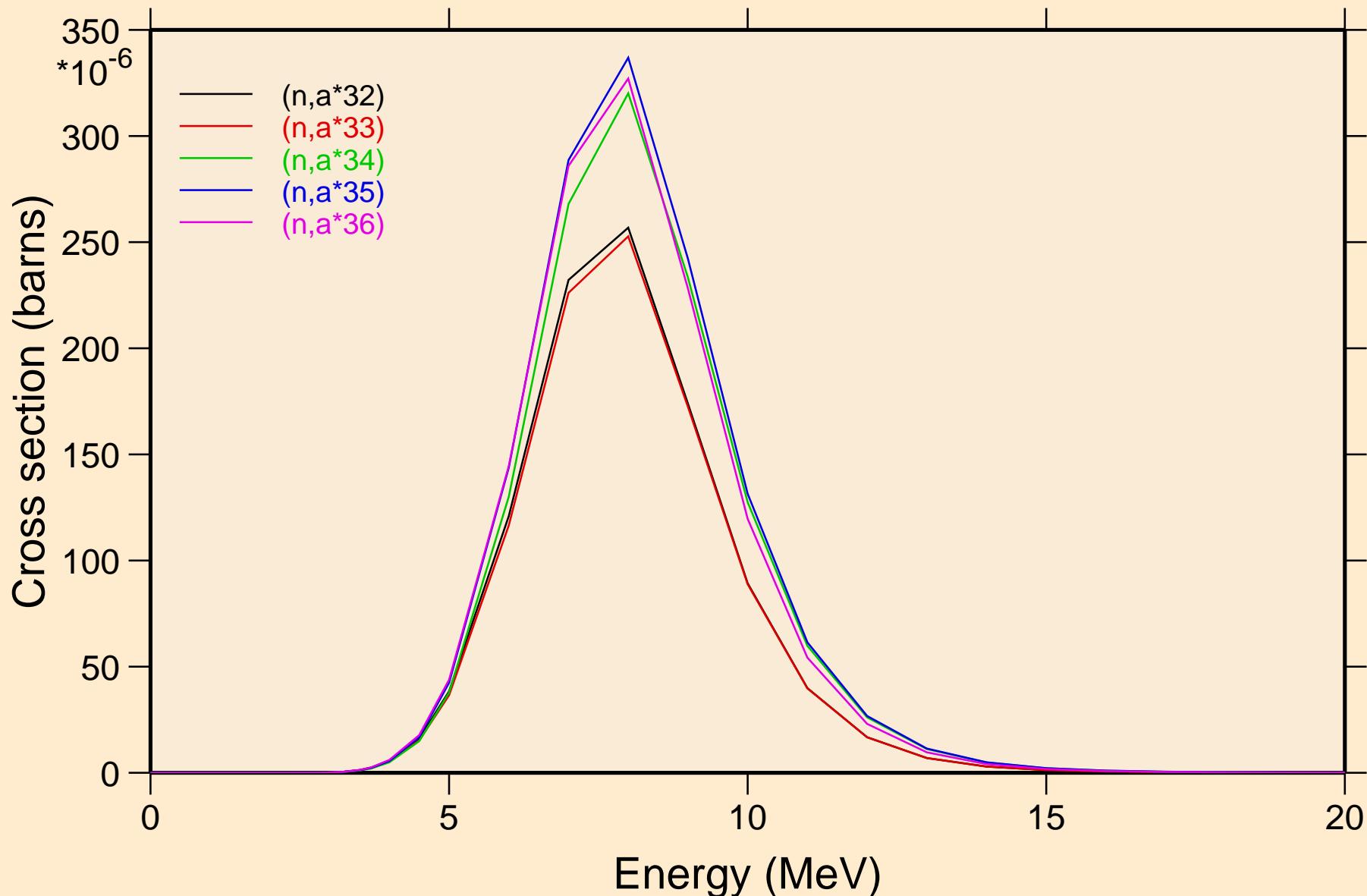
# ADVANCE CALCULATIONS

## Threshold reactions



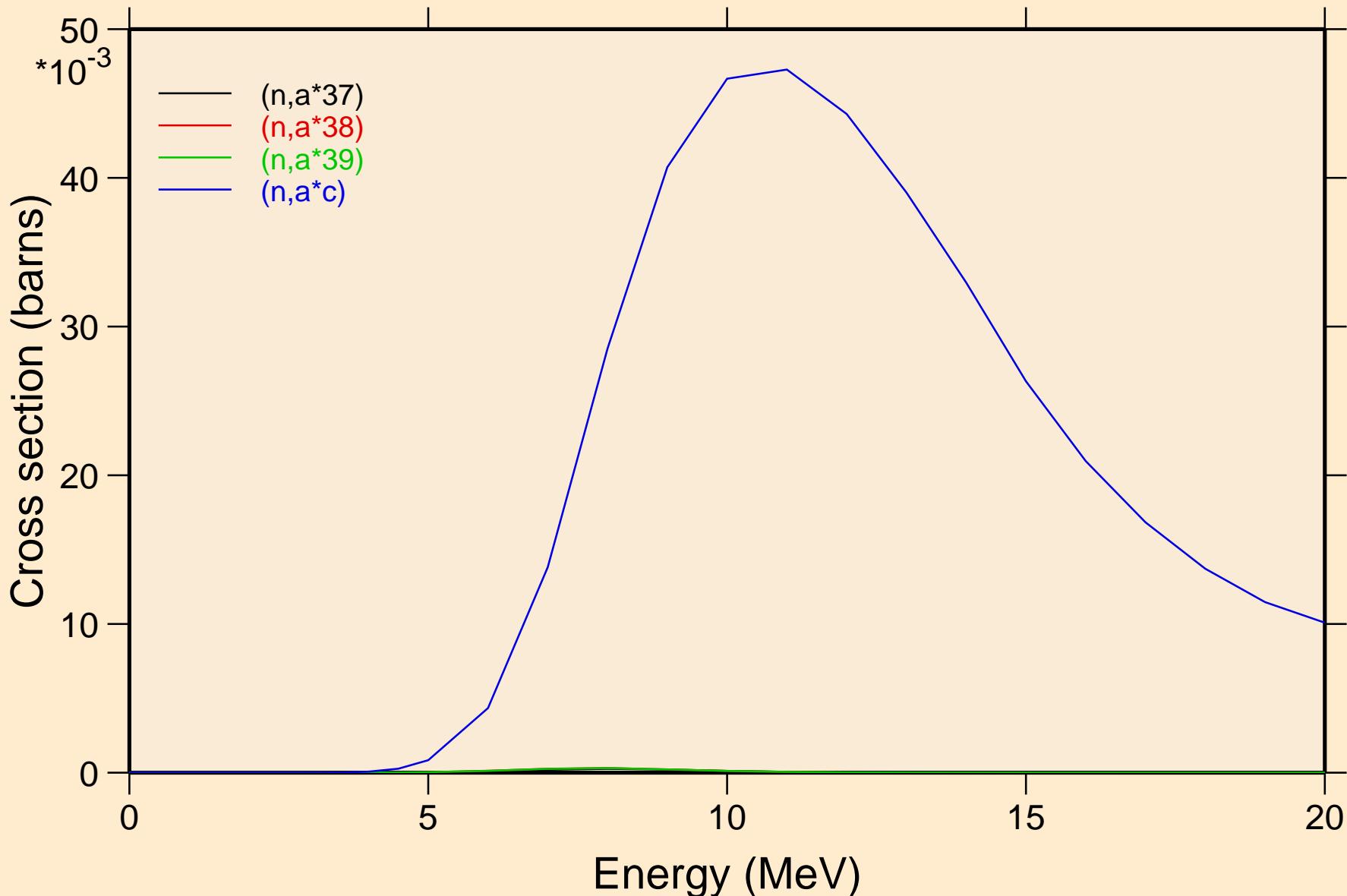
# ADVANCE CALCULATIONS

## Threshold reactions



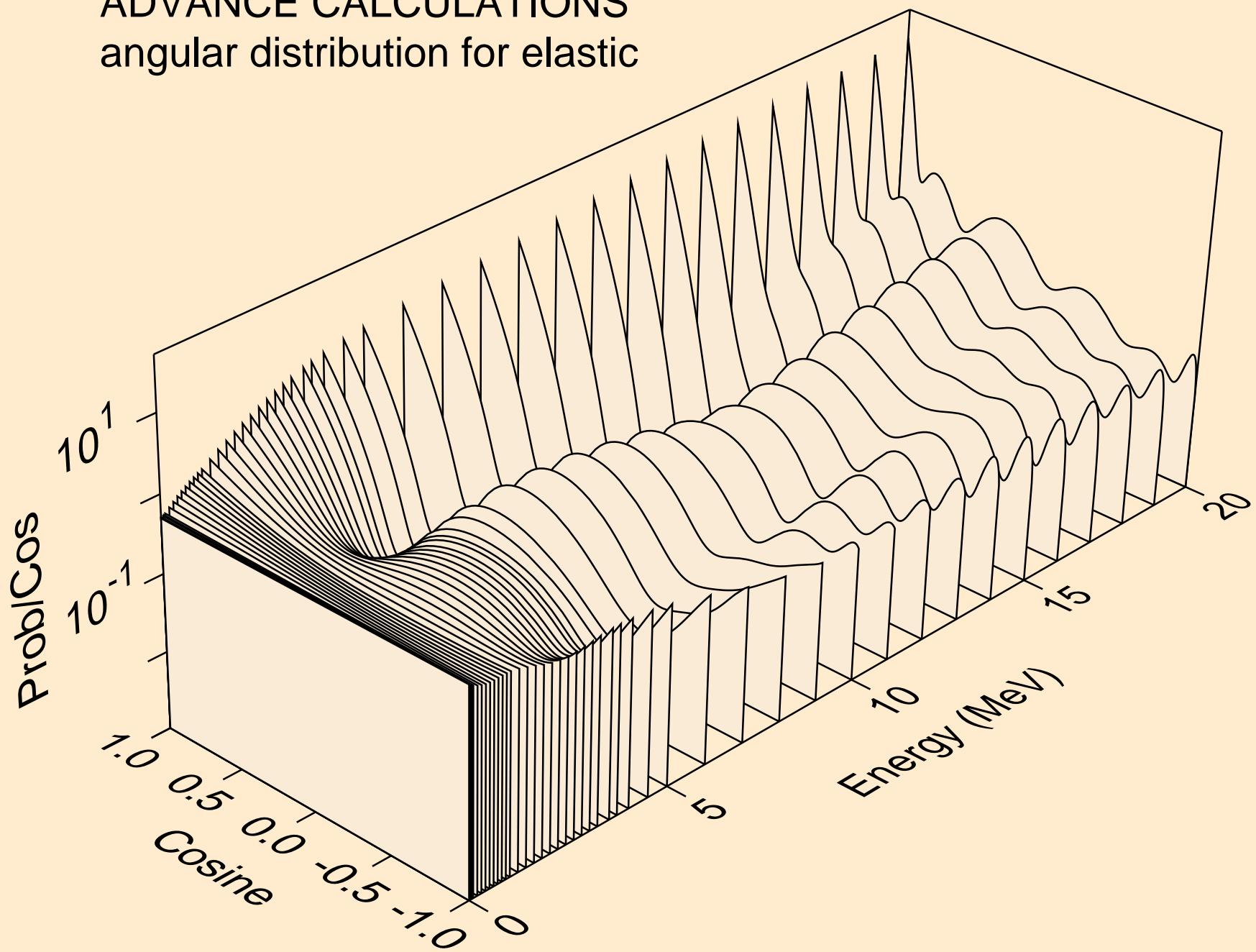
# ADVANCE CALCULATIONS

## Threshold reactions



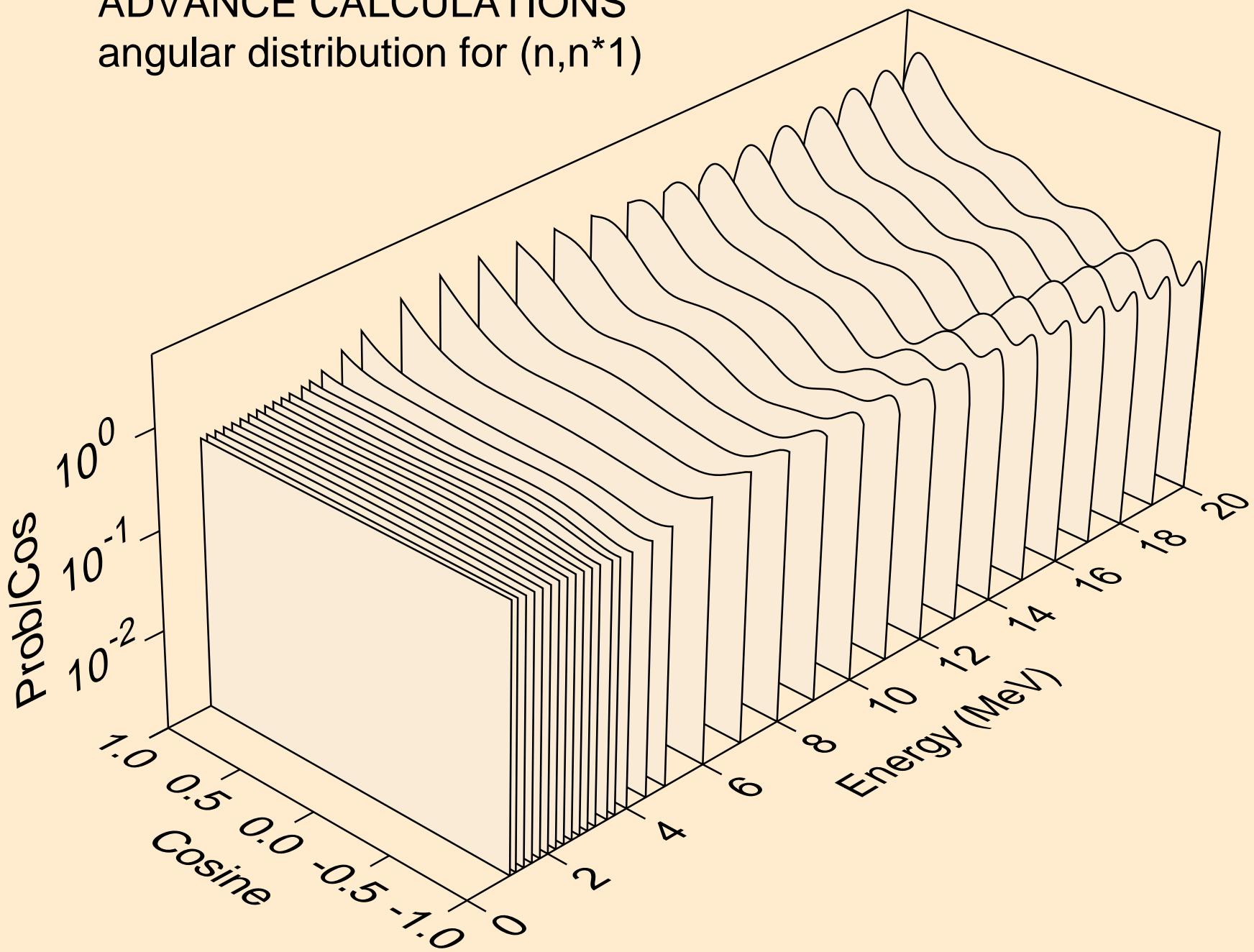
# ADVANCE CALCULATIONS

angular distribution for elastic



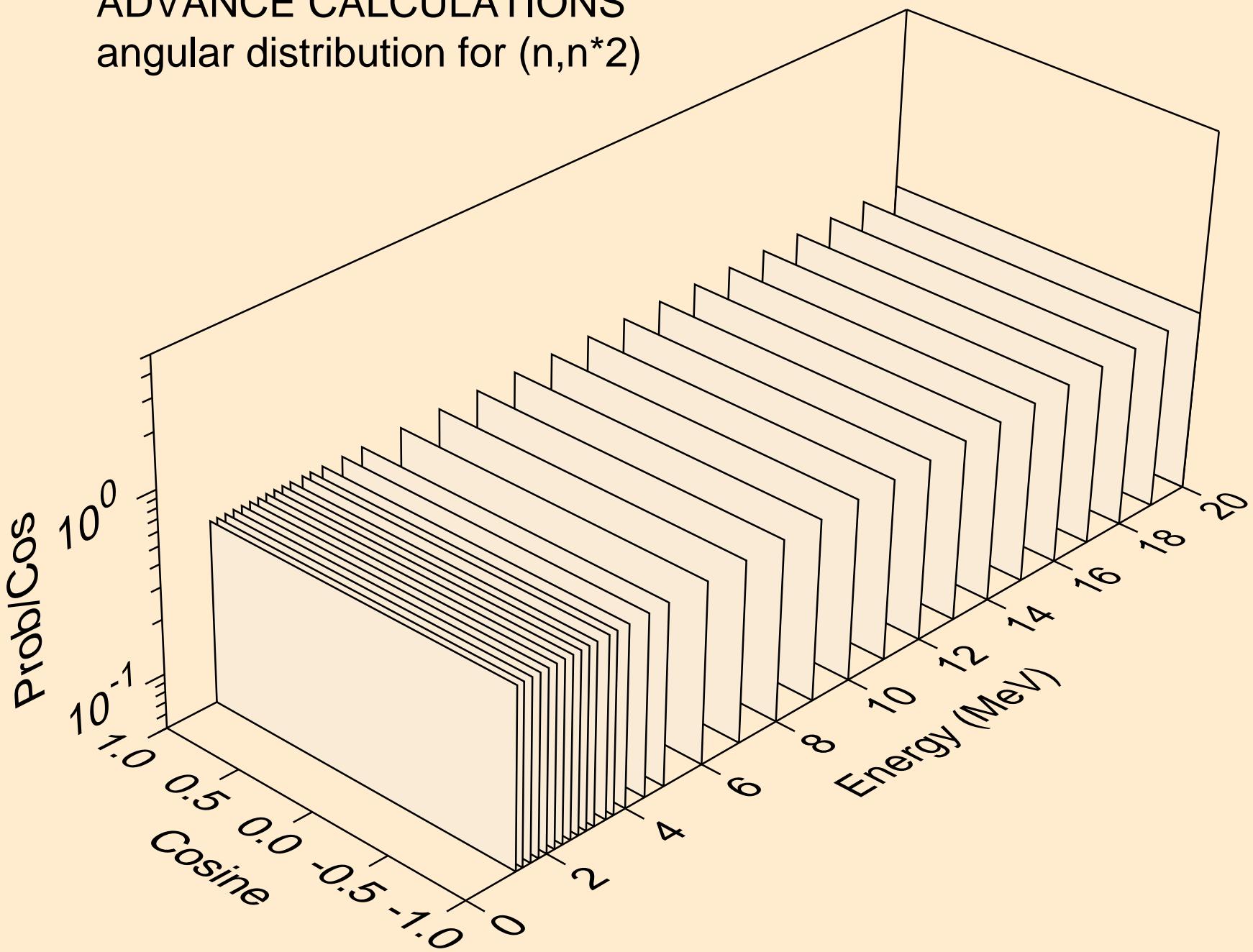
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)$



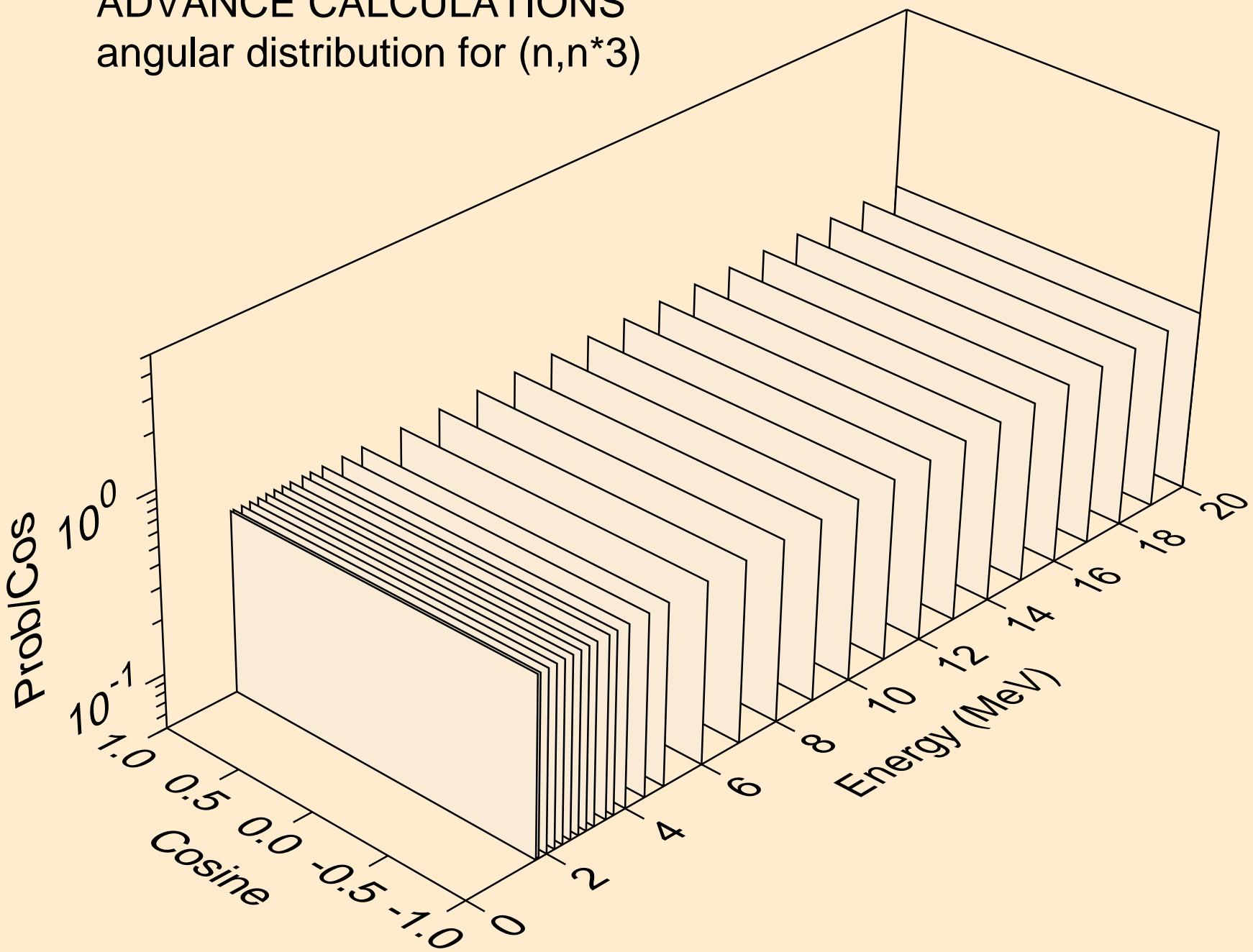
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)$



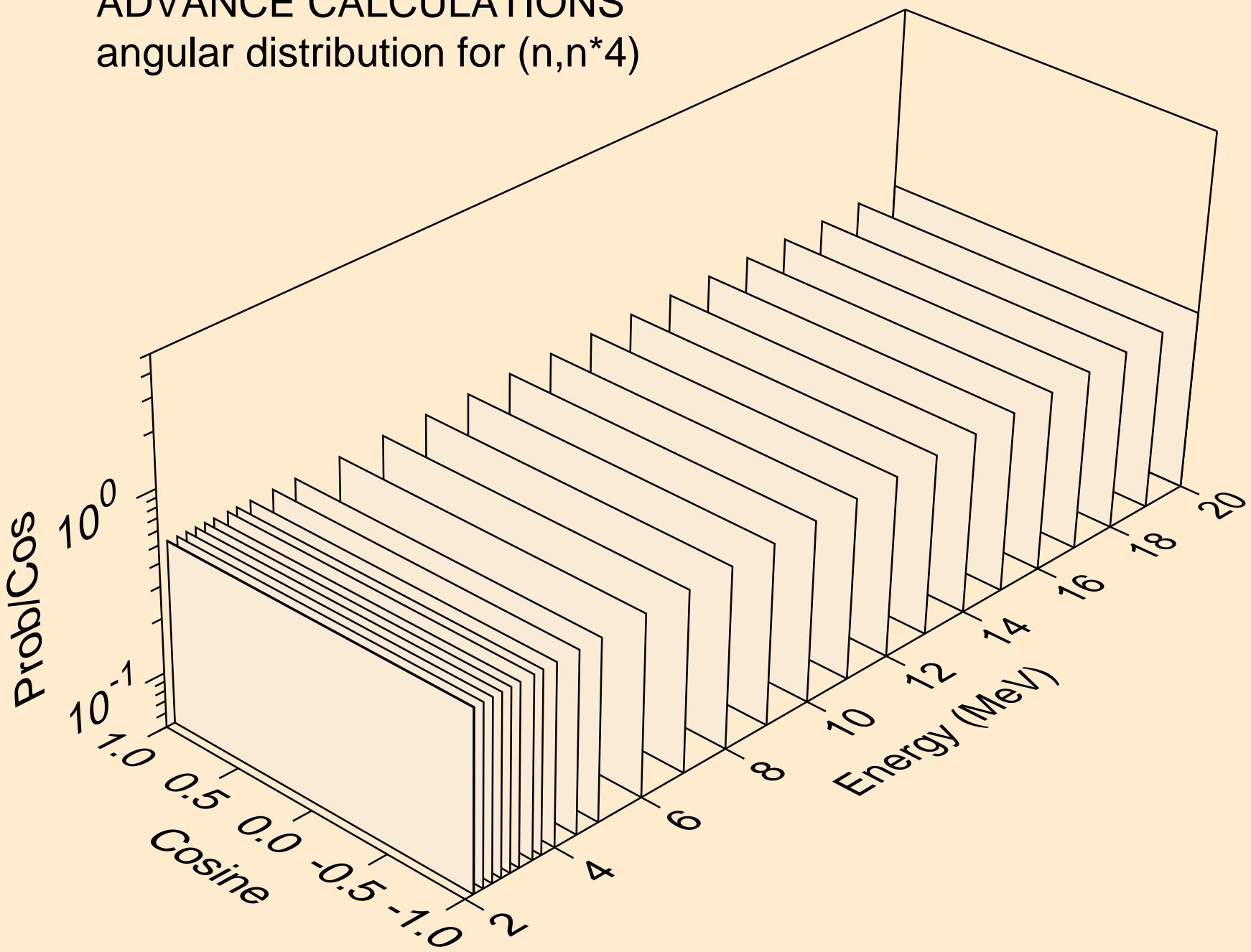
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)^3$



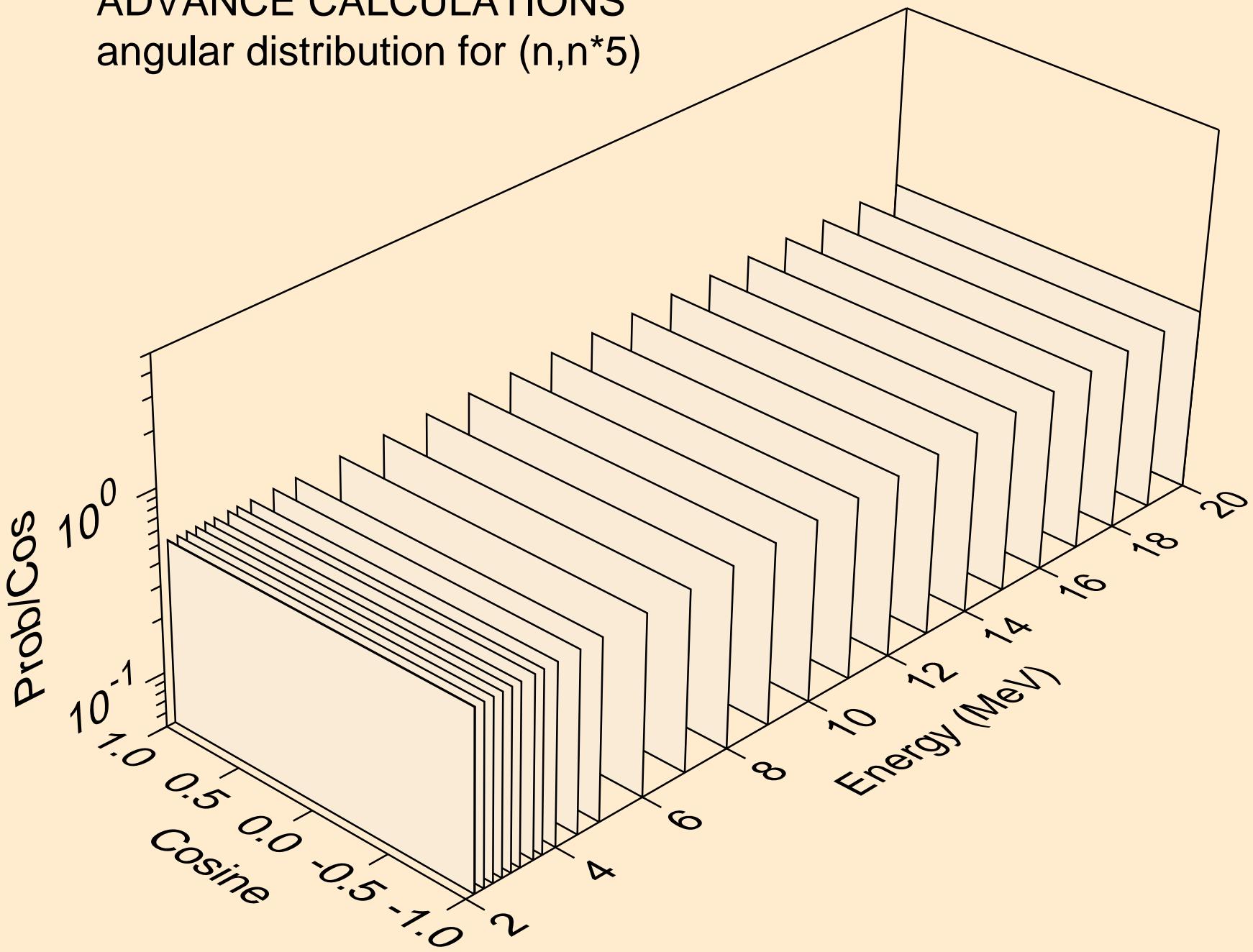
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*4)$



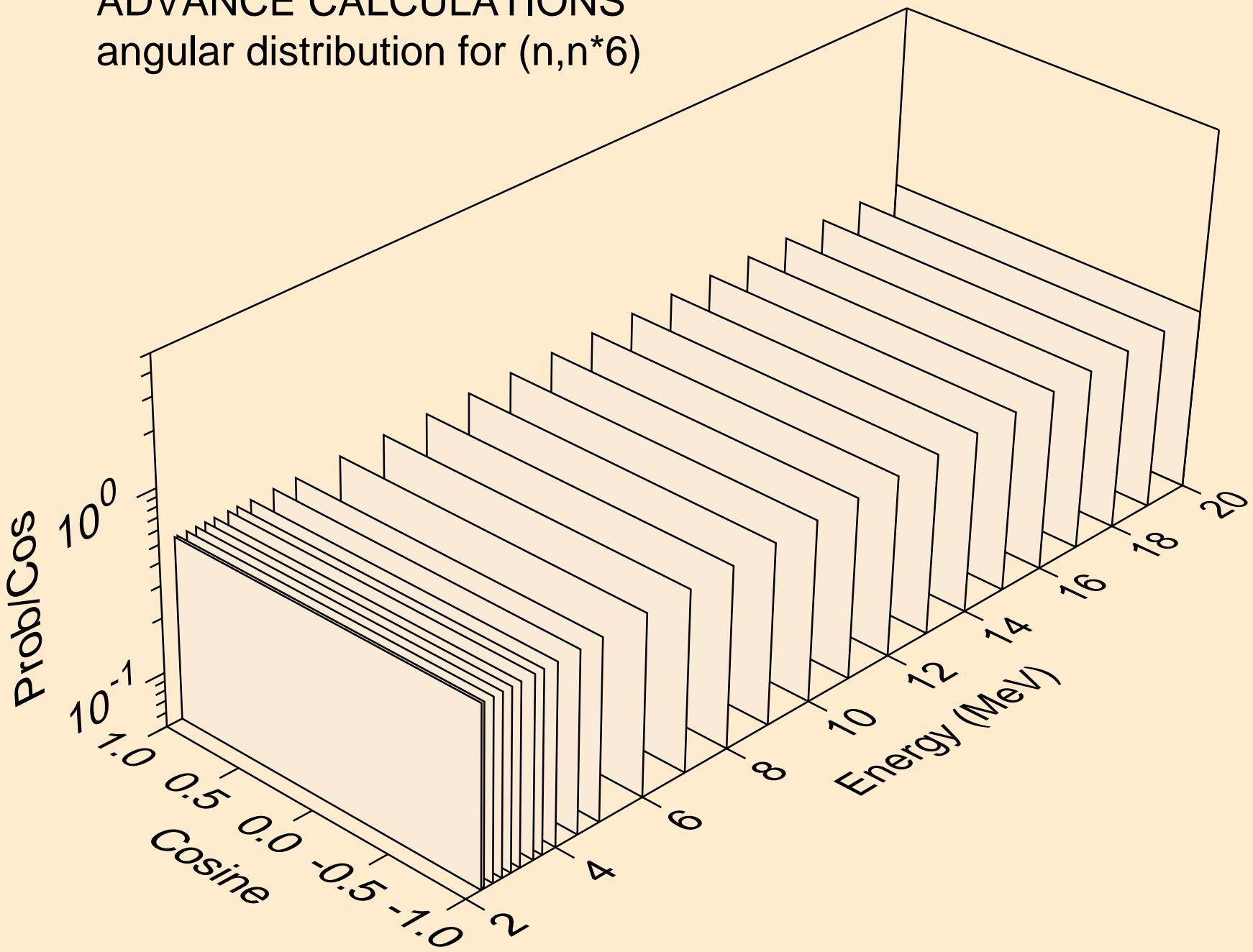
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*5)



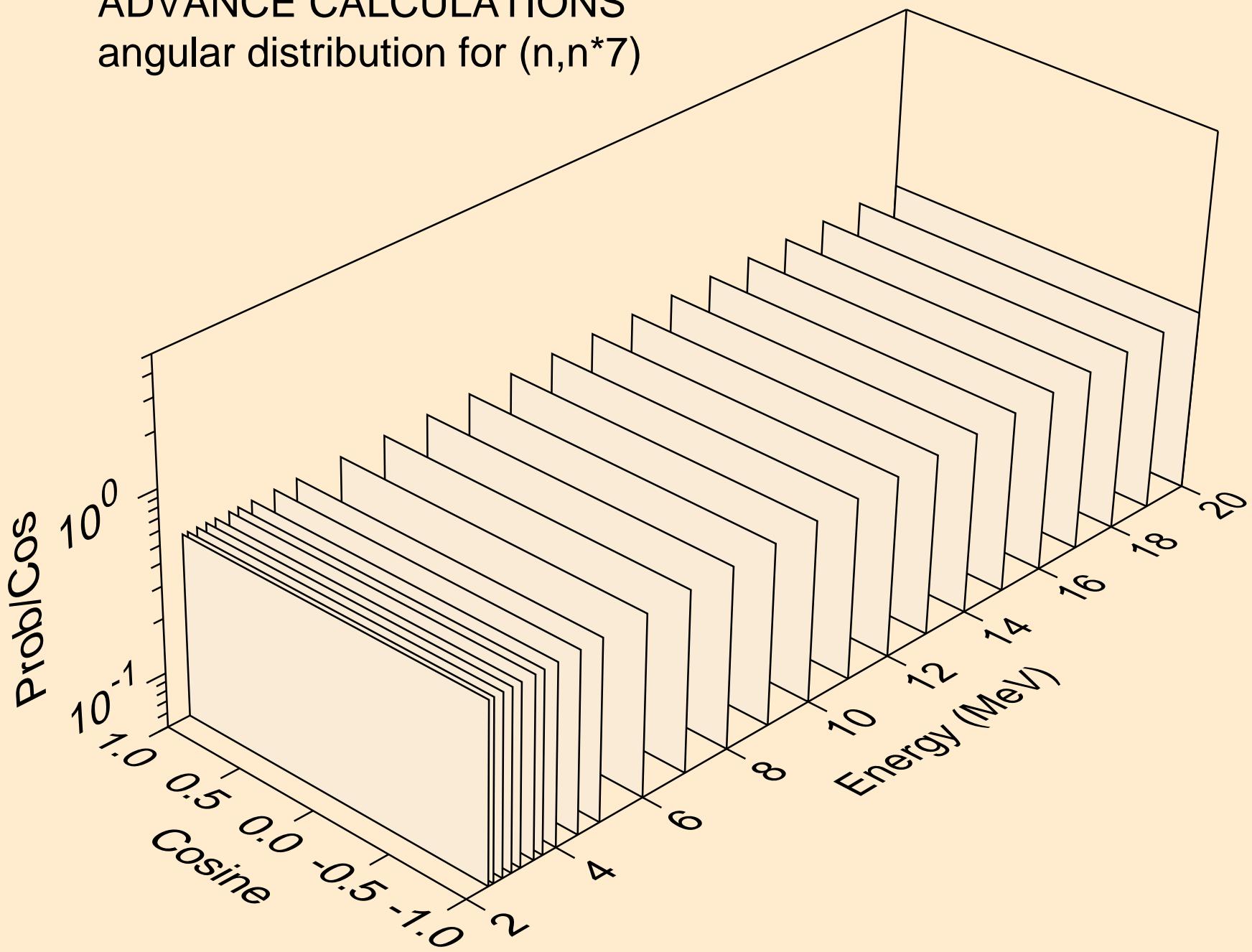
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*6)



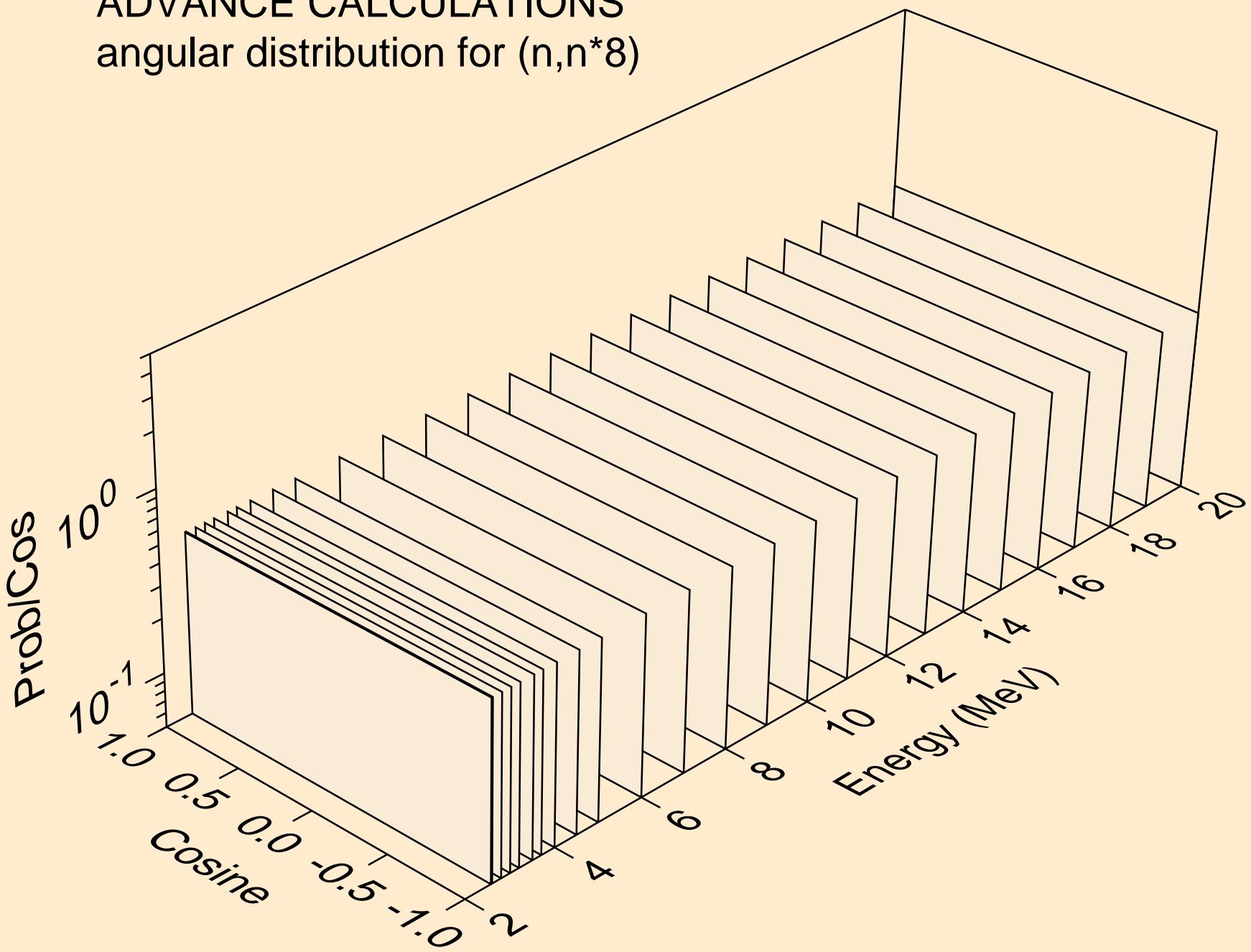
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)7$



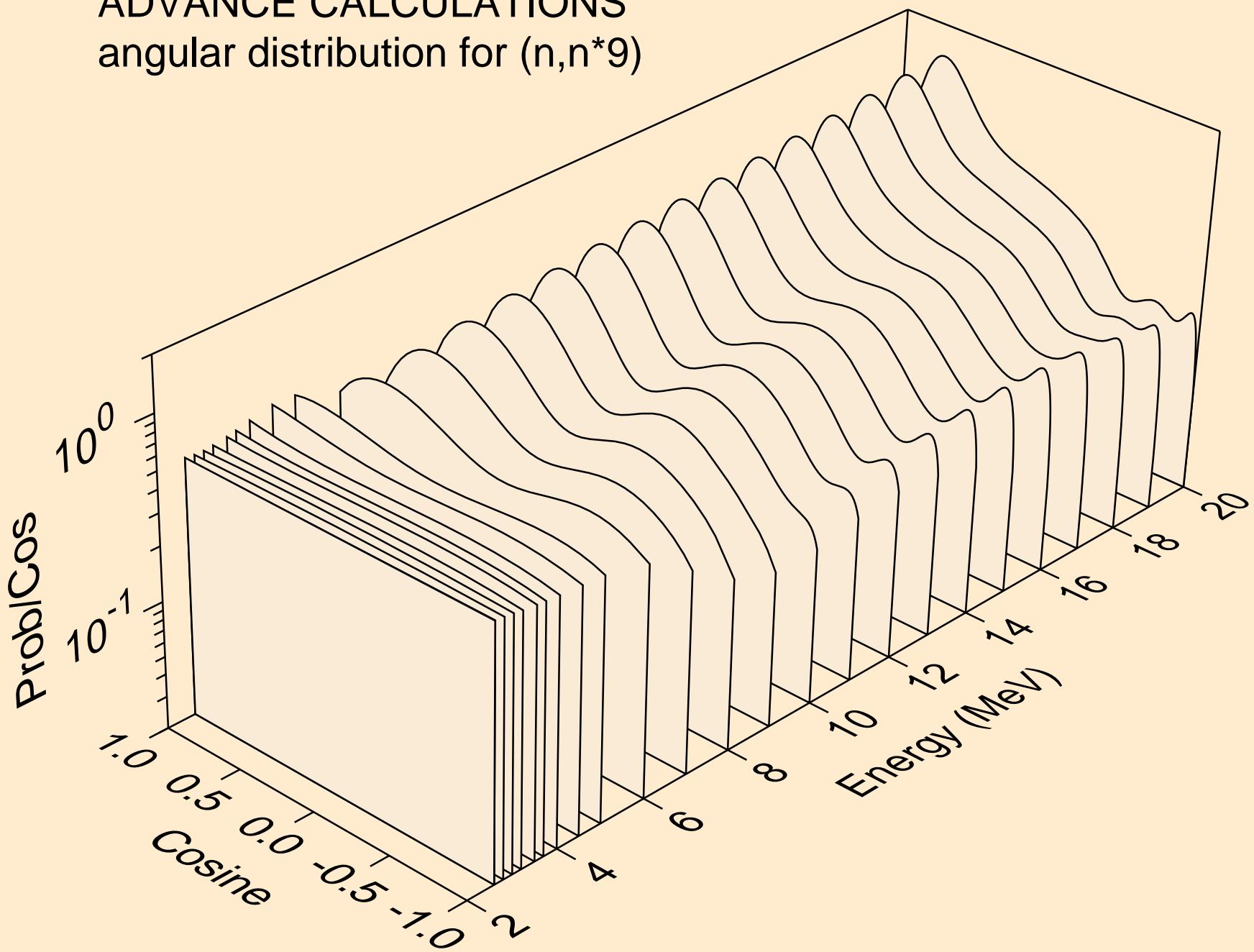
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*8)



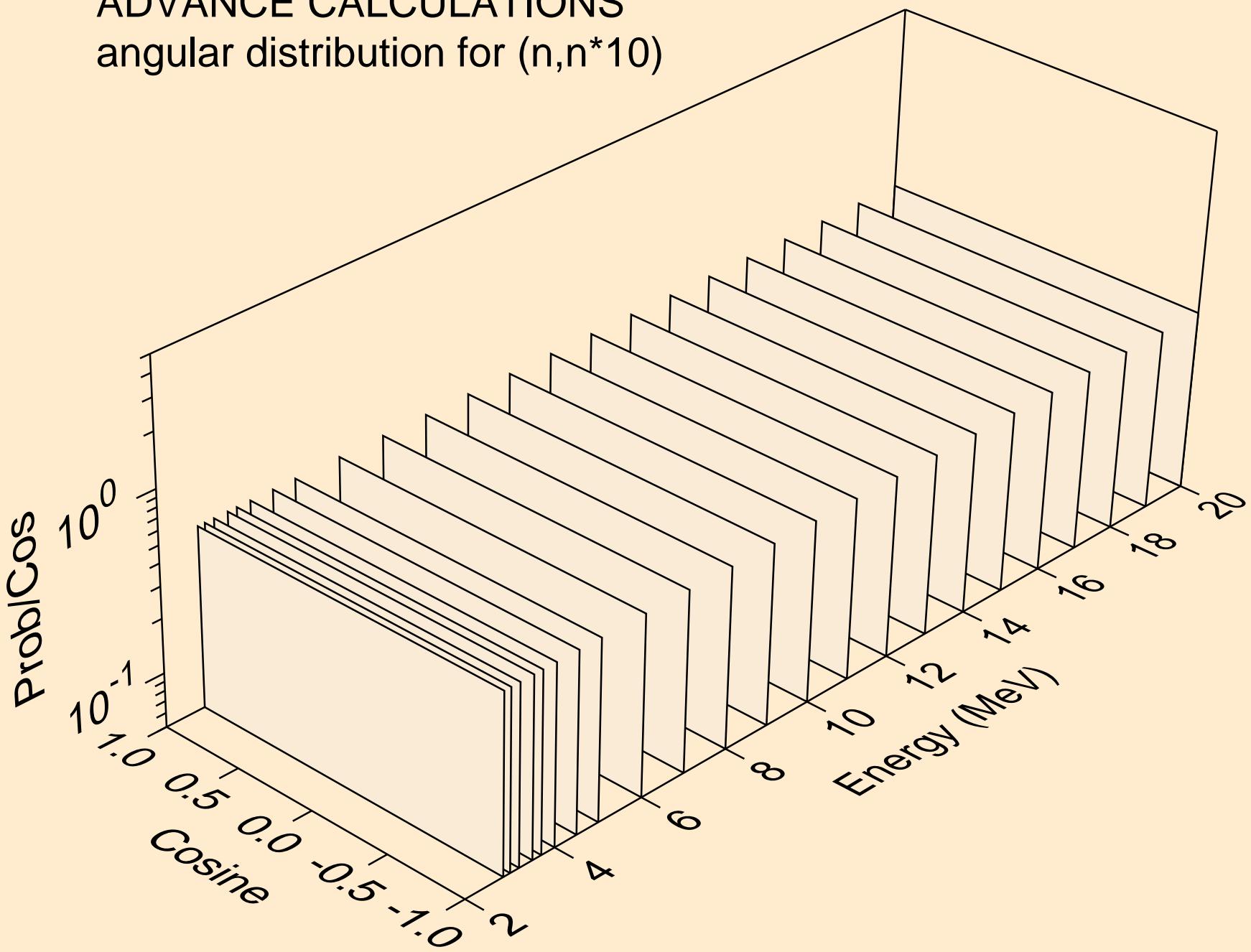
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*9)$



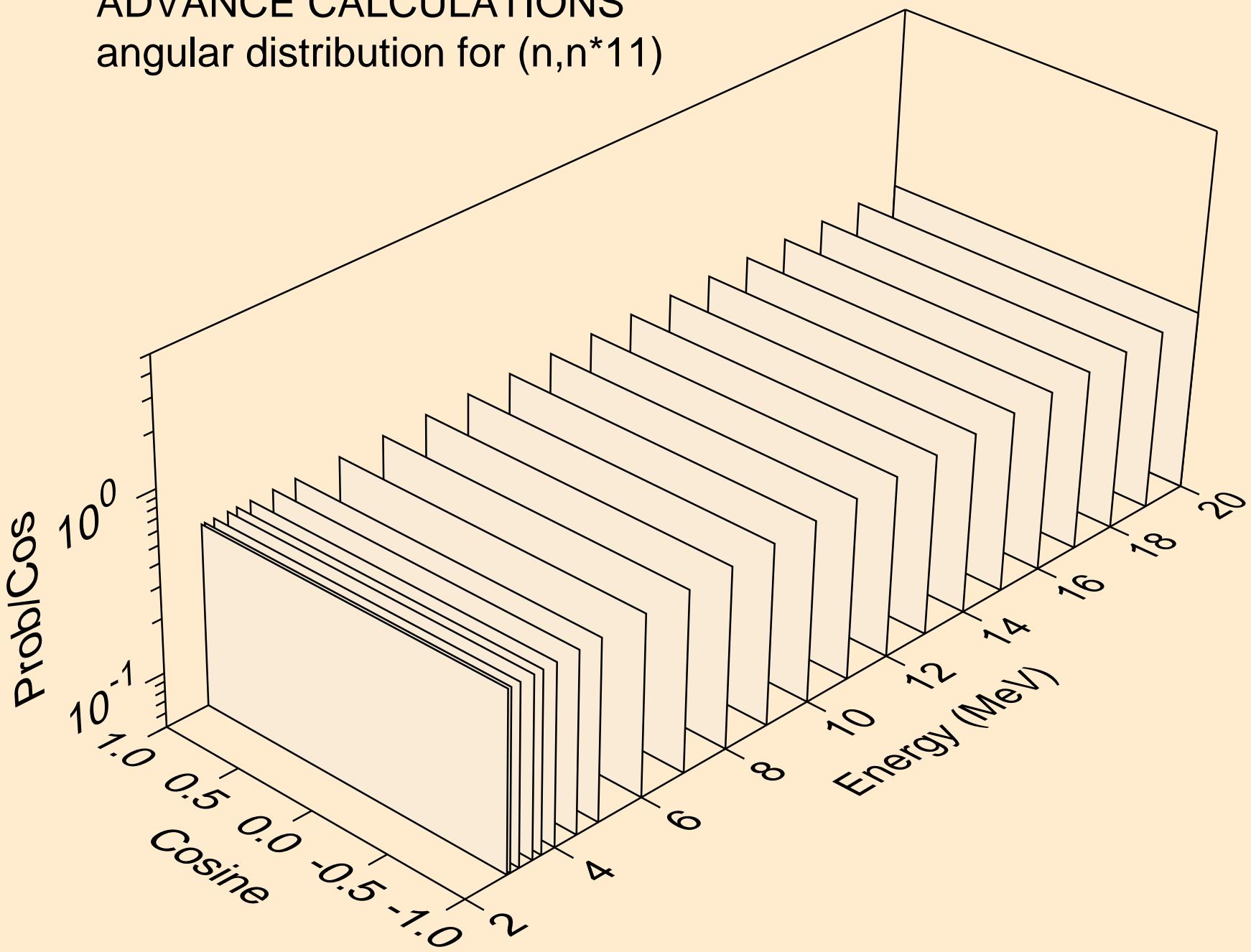
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*10)



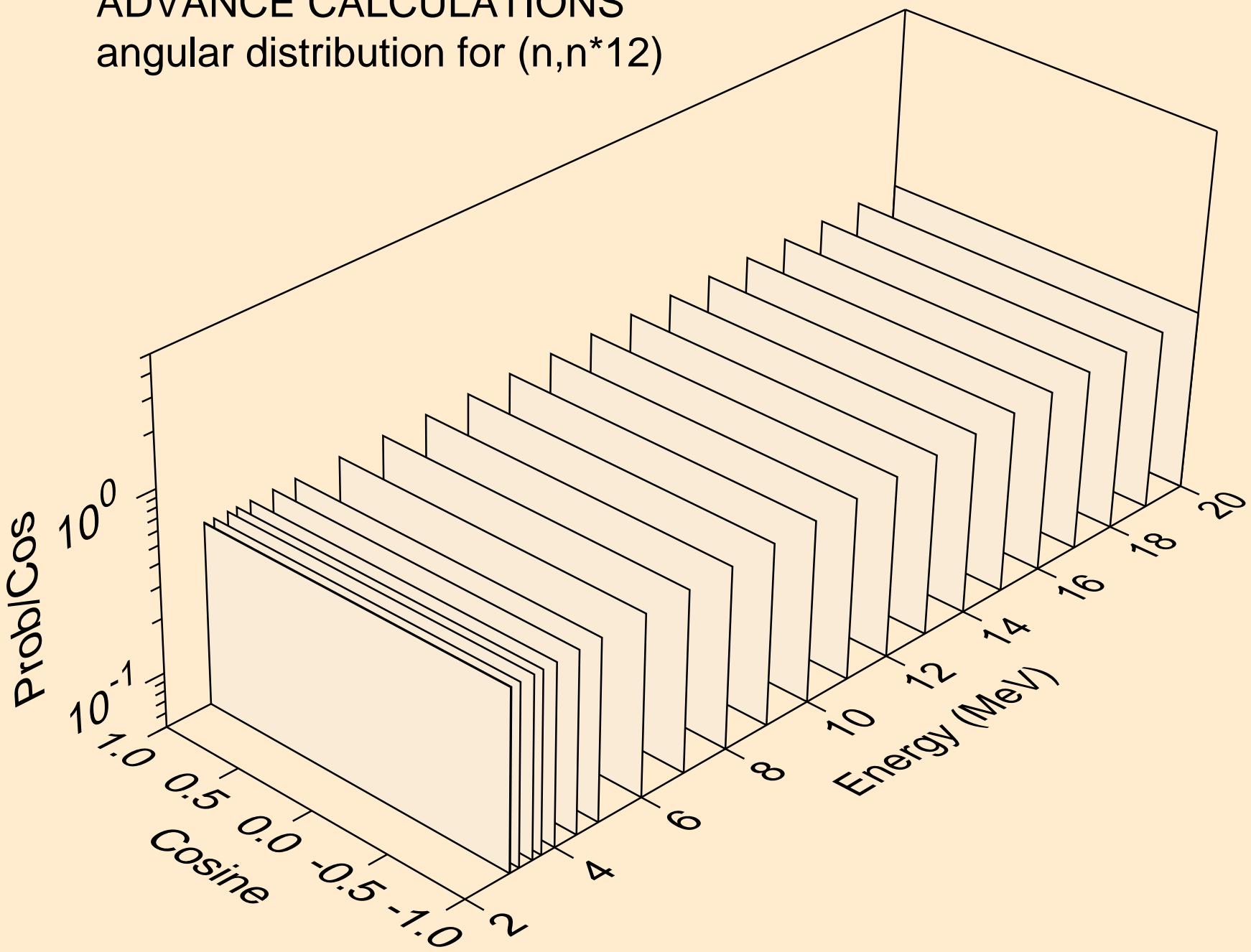
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*11)



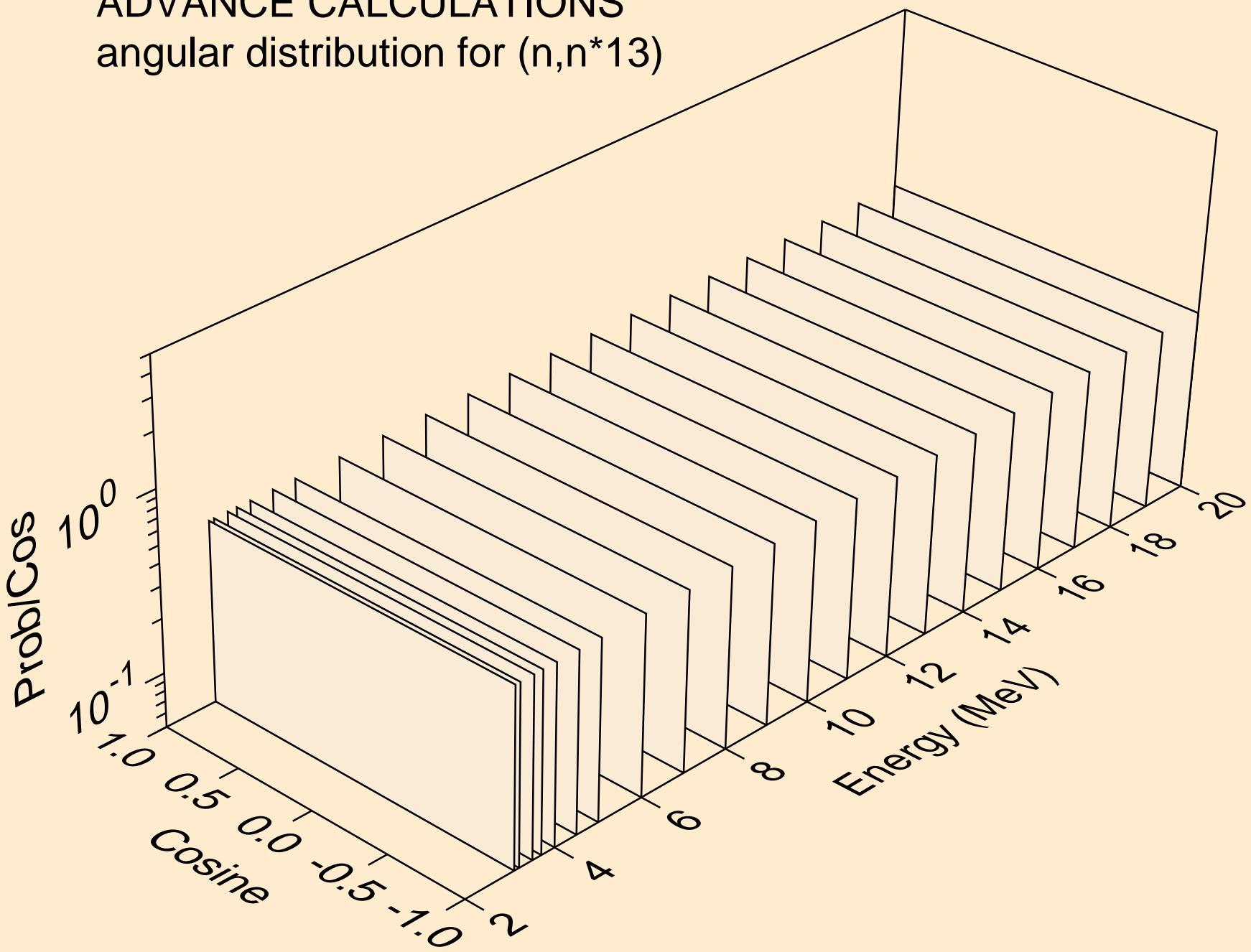
# ADVANCE CALCULATIONS

angular distribution for  $(n, n^* 12)$



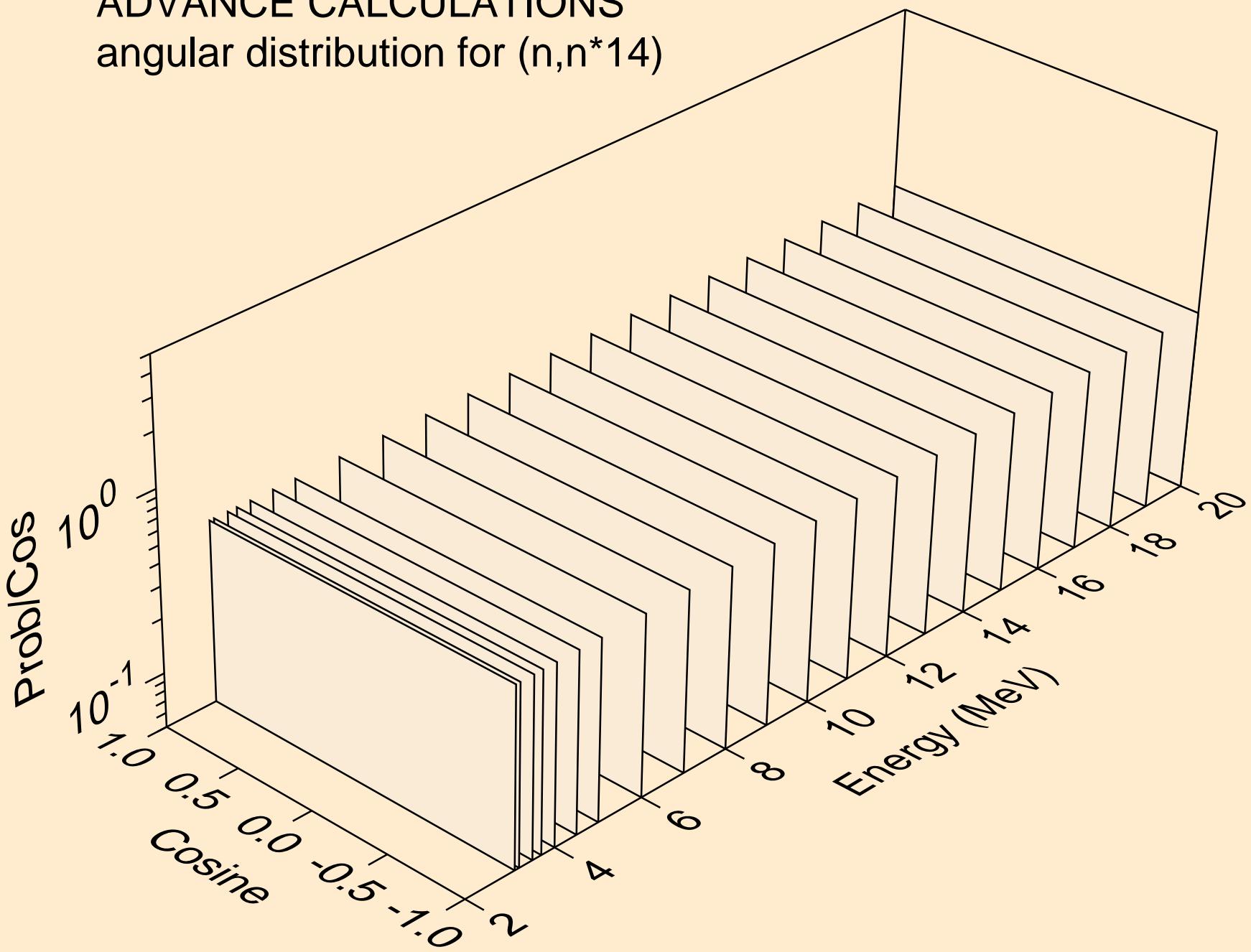
# ADVANCE CALCULATIONS

angular distribution for (n,n\*13)



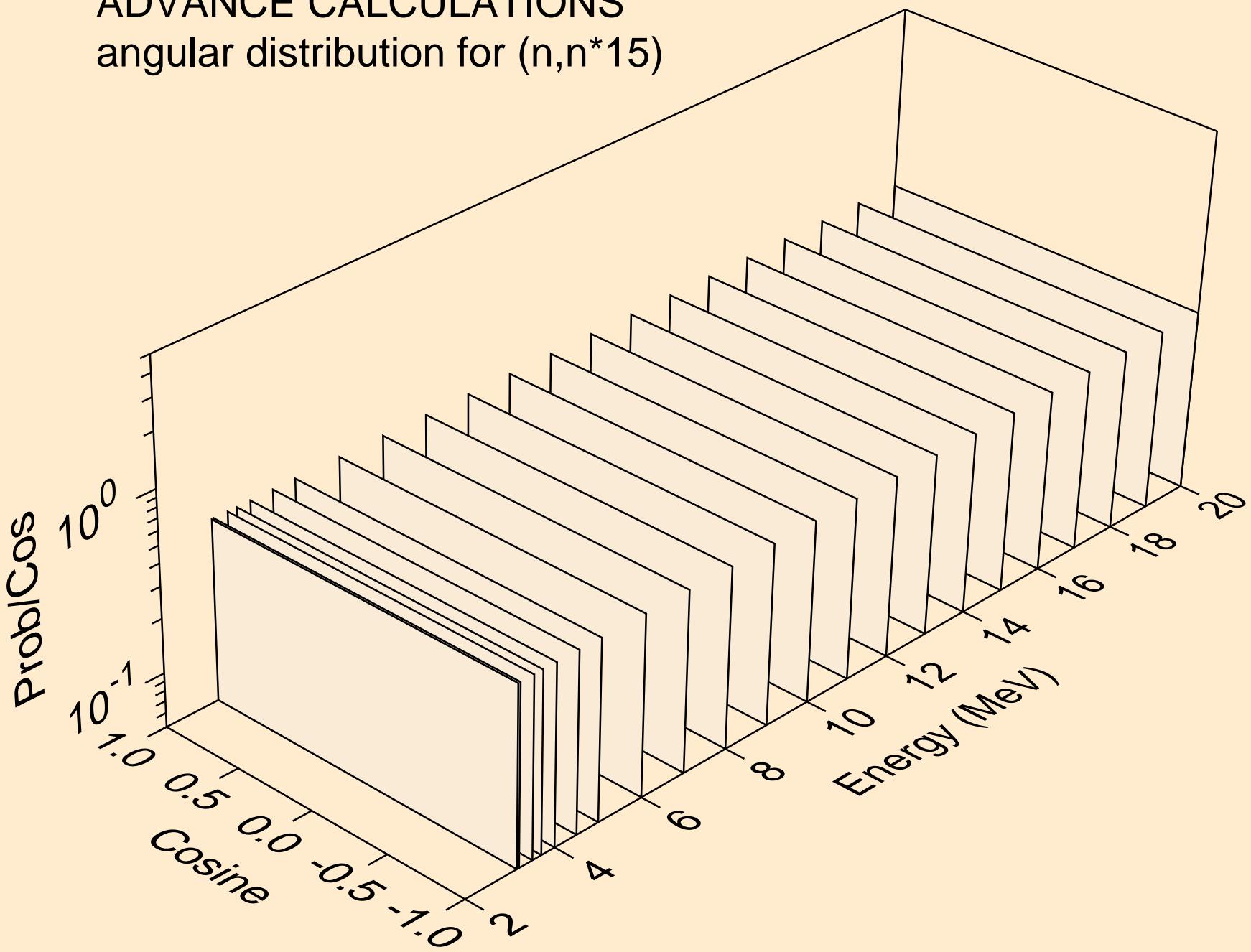
# ADVANCE CALCULATIONS

angular distribution for (n,n\*14)



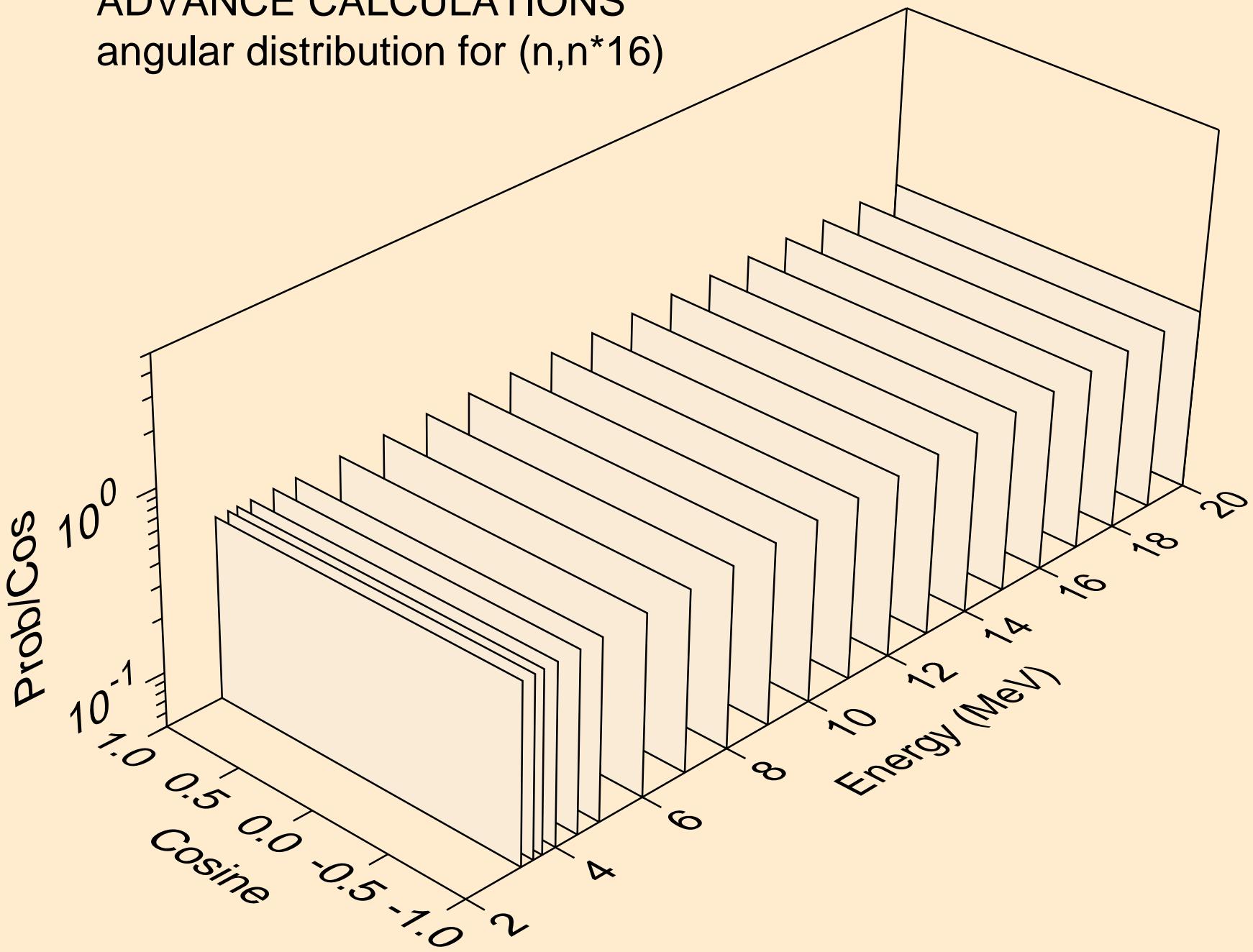
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*15)



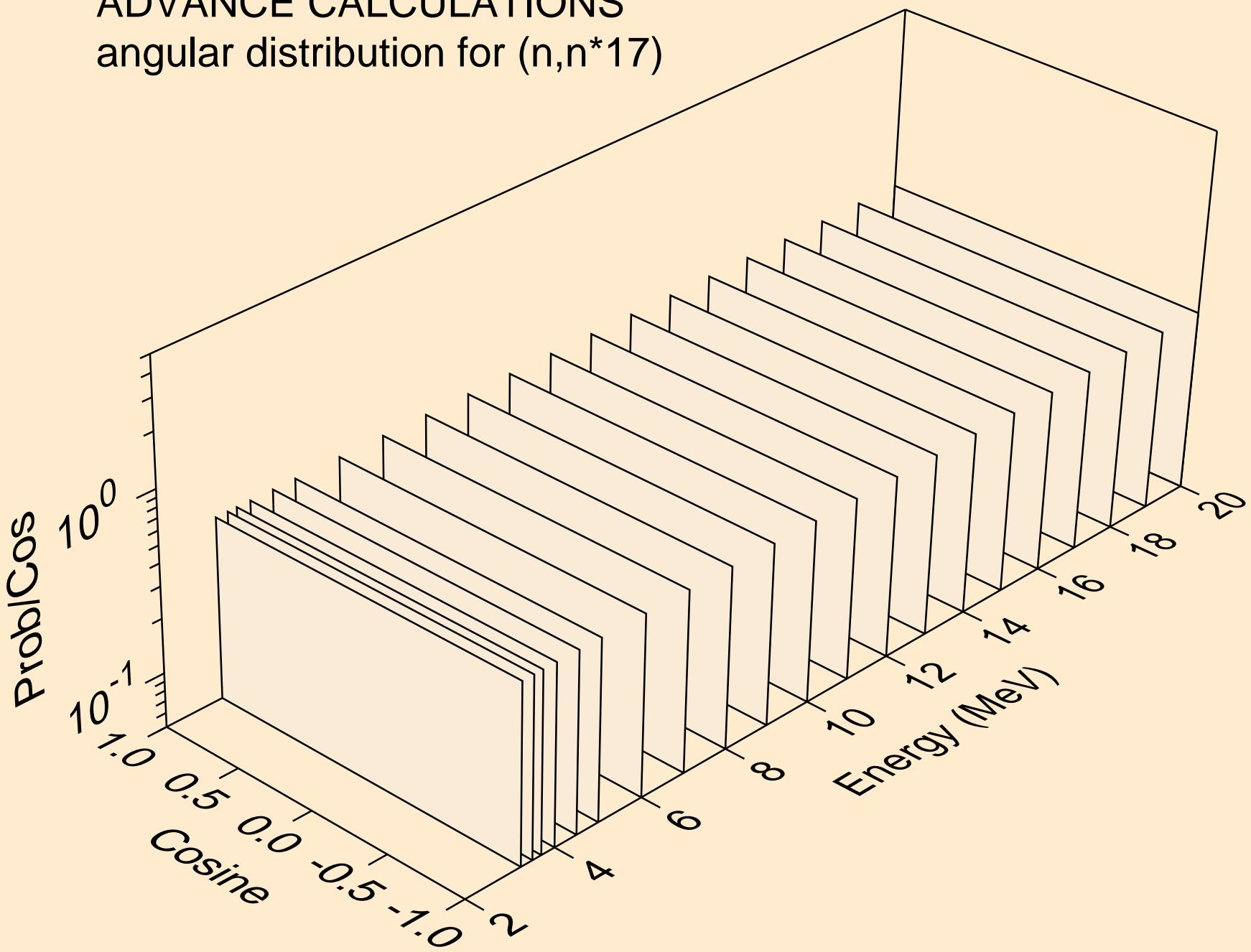
# ADVANCE CALCULATIONS

angular distribution for (n,n\*16)



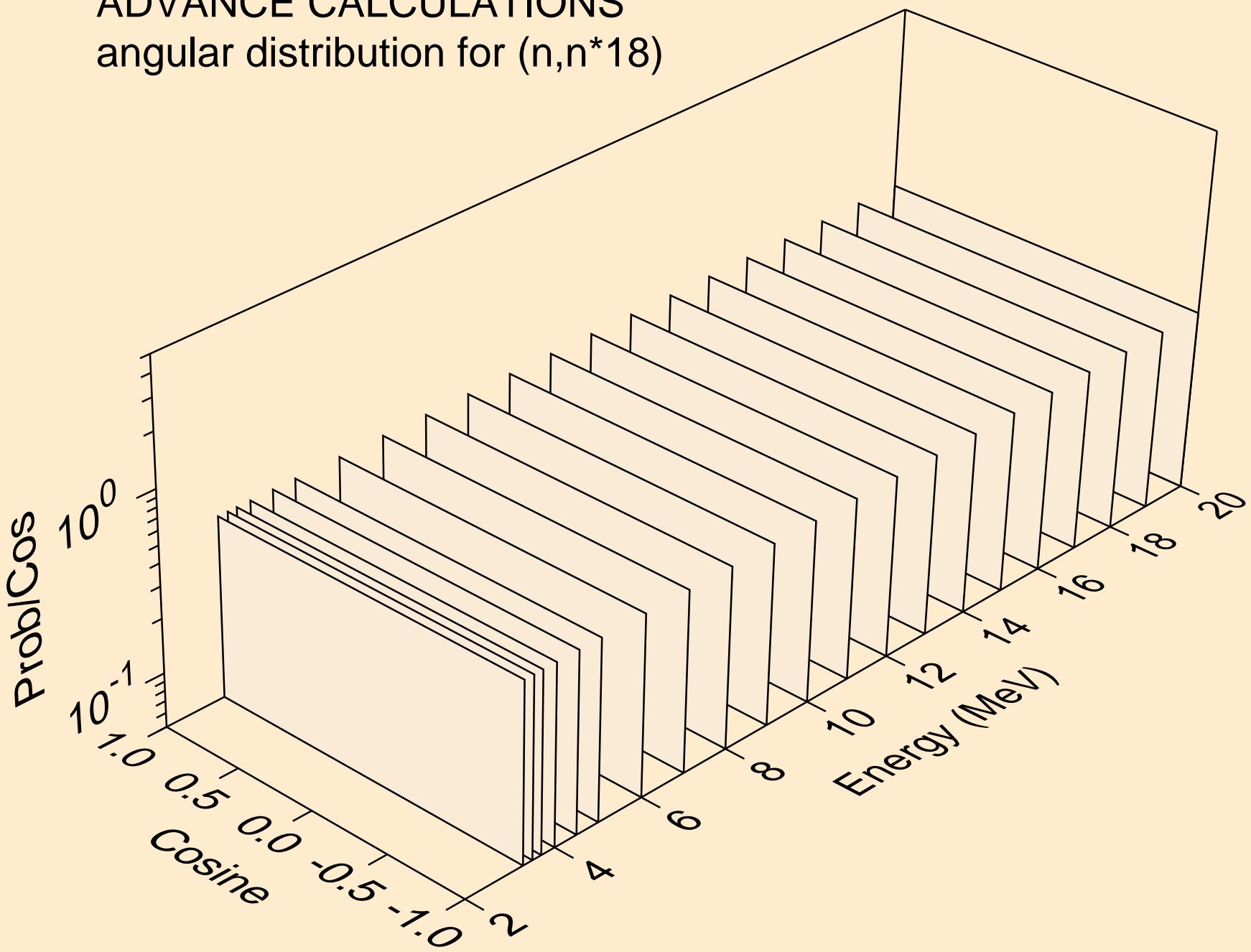
# ADVANCE CALCULATIONS

angular distribution for (n,n\*17)



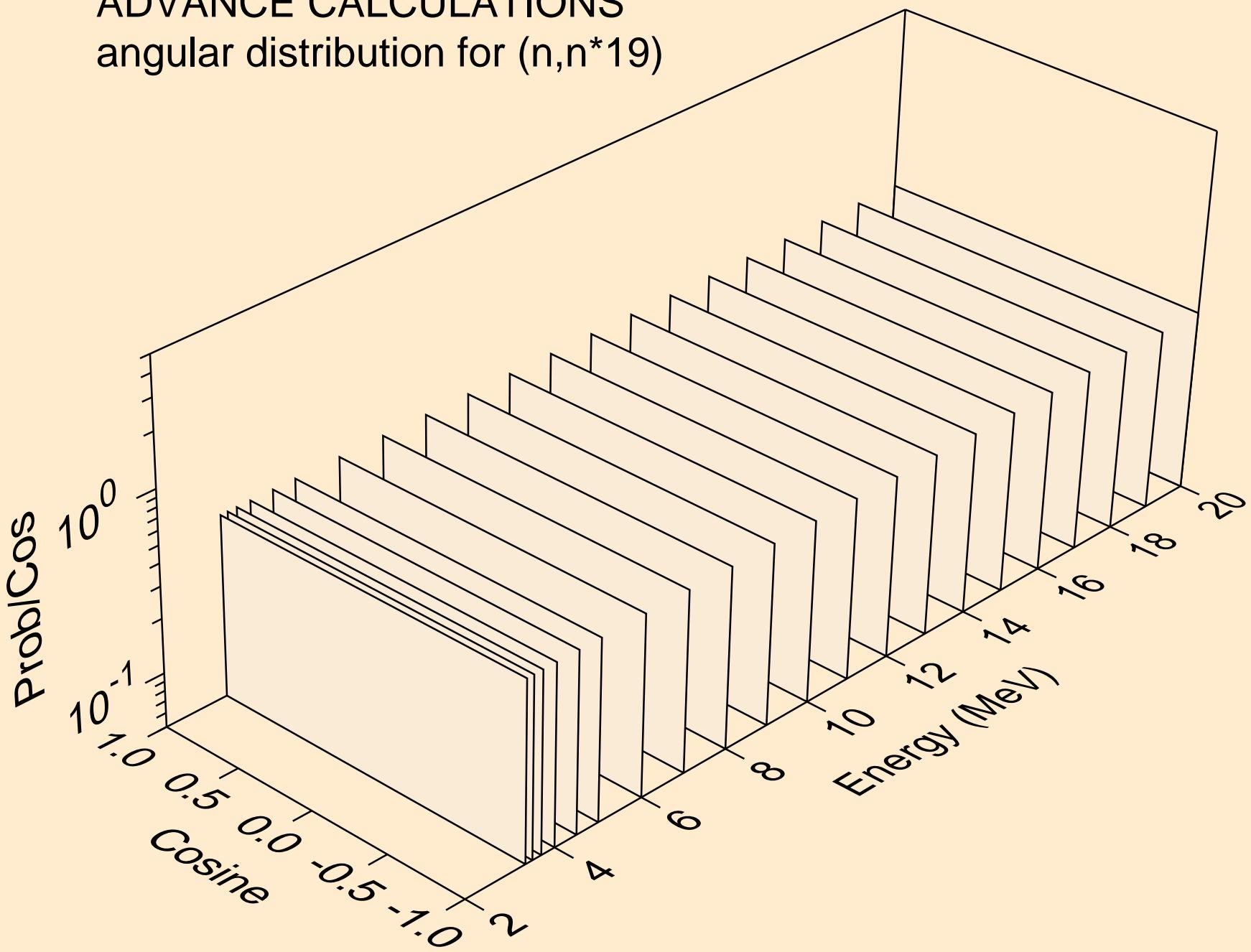
# ADVANCE CALCULATIONS

angular distribution for (n,n\*18)



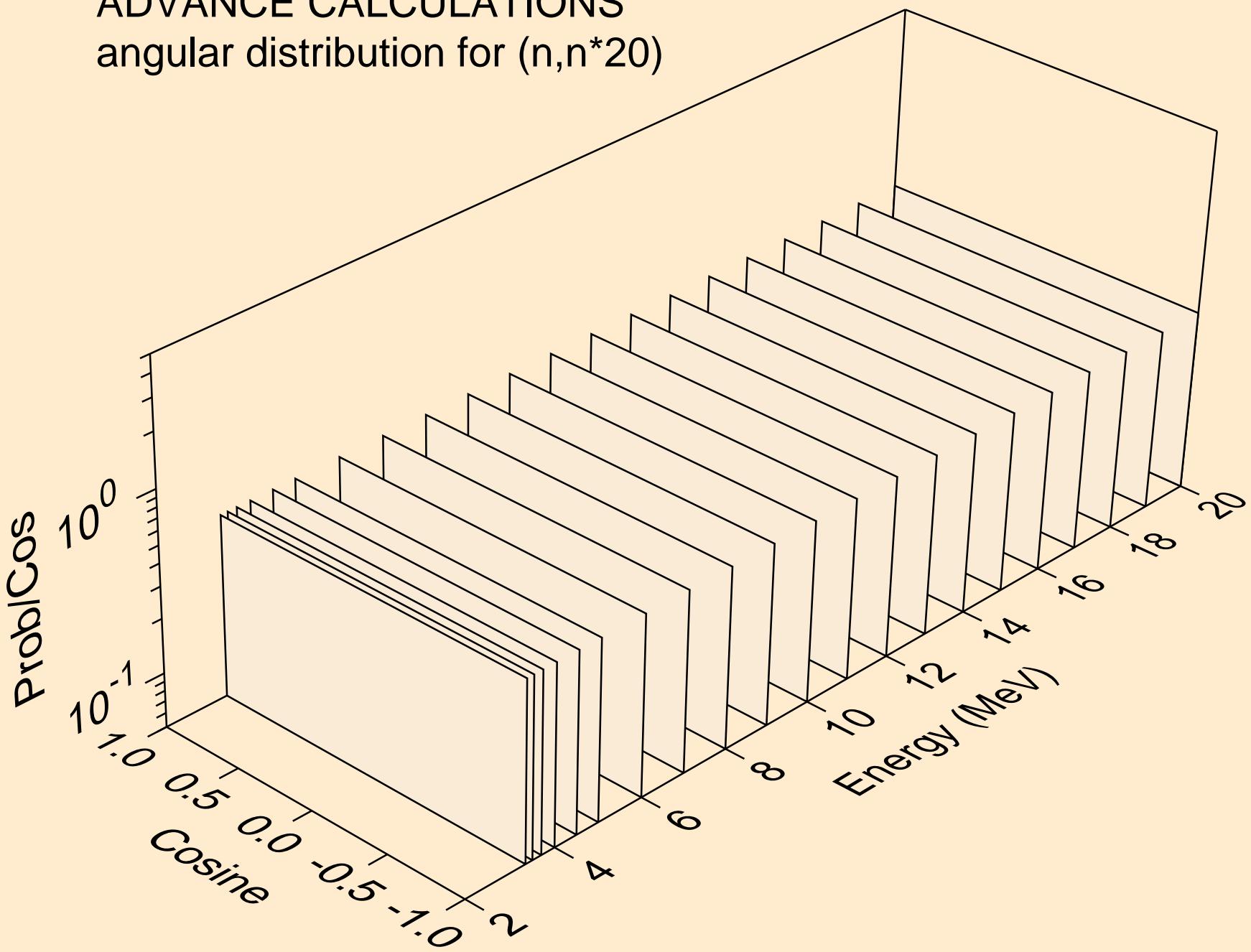
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*19)



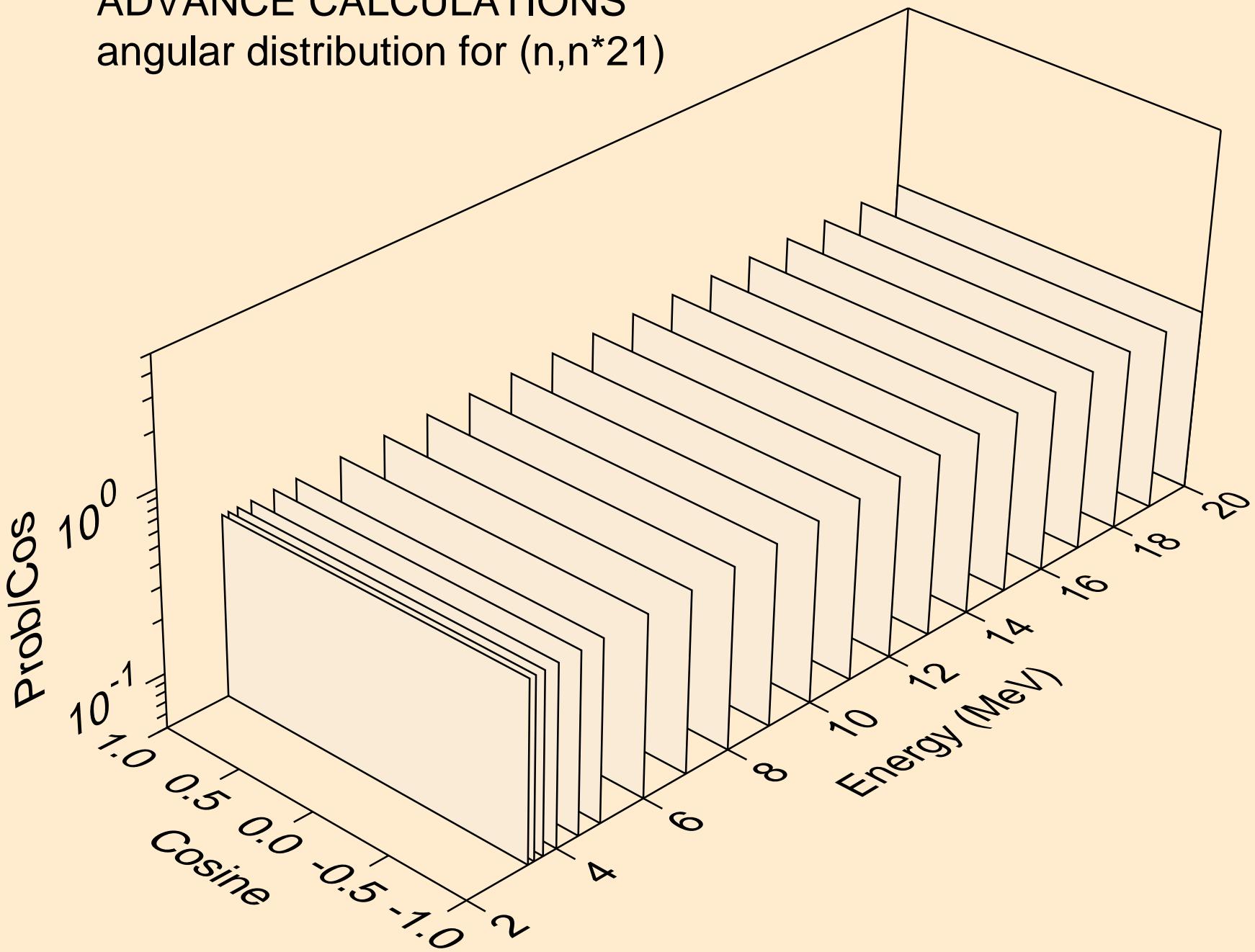
# ADVANCE CALCULATIONS

angular distribution for (n,n\*20)



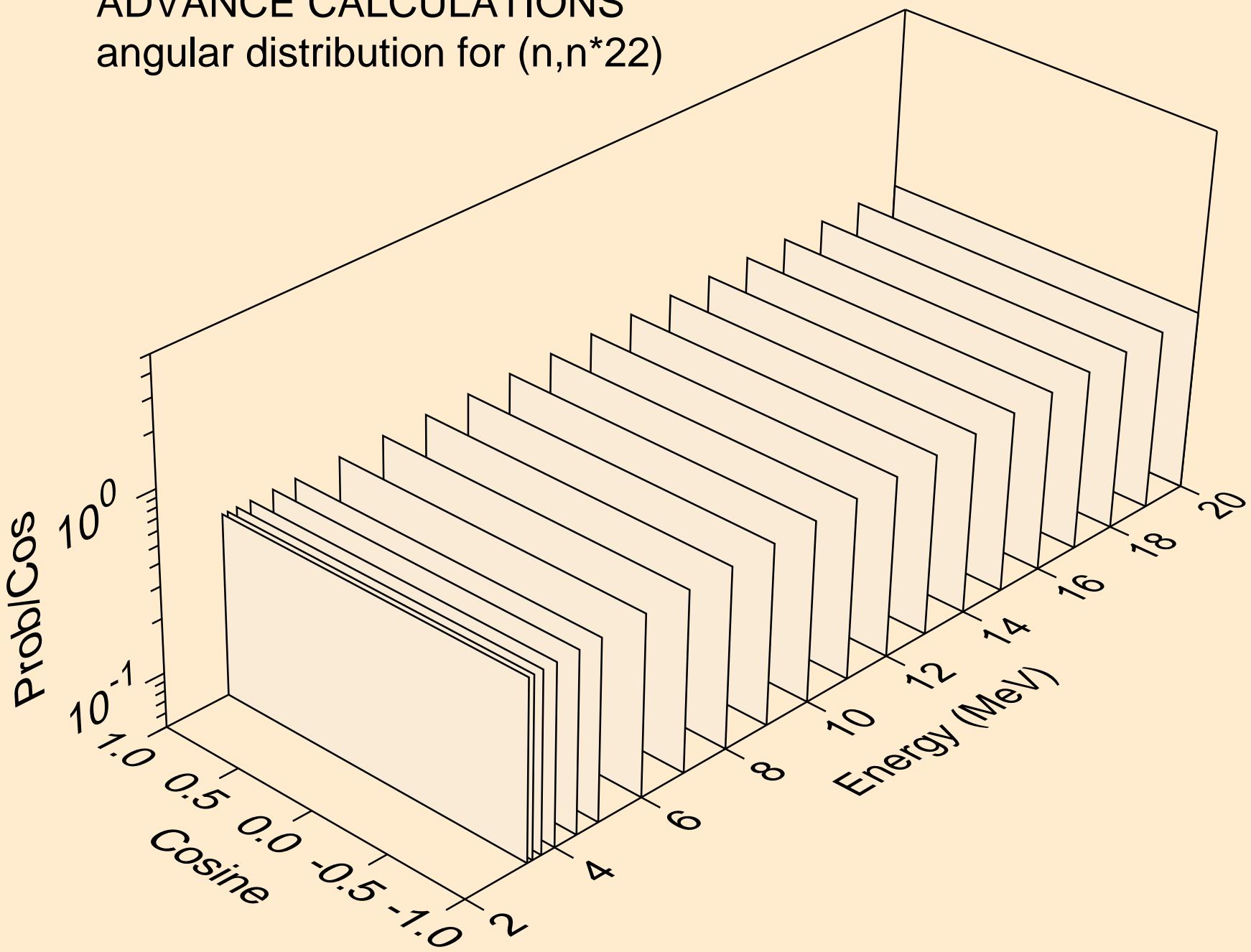
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*21)



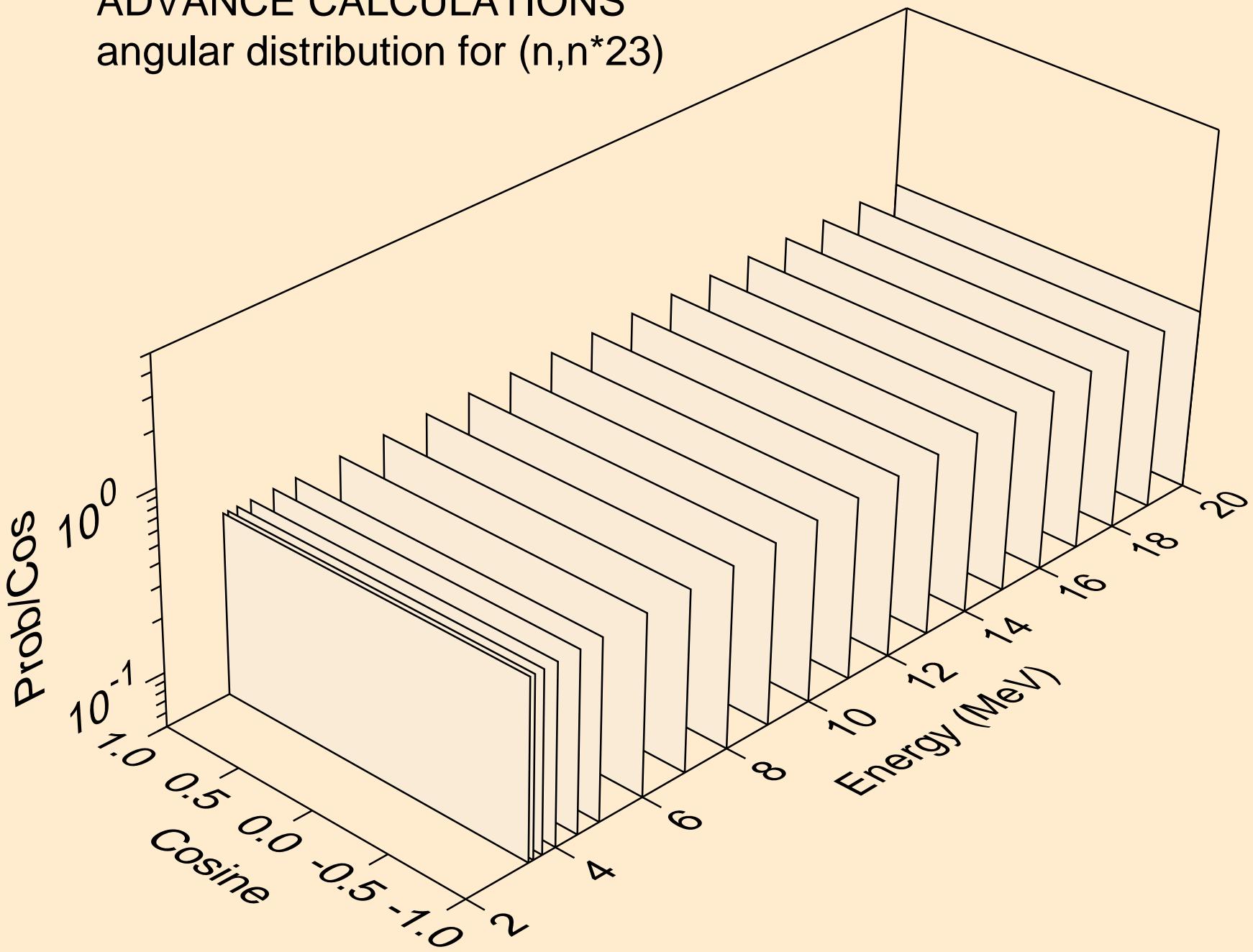
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^{22}$



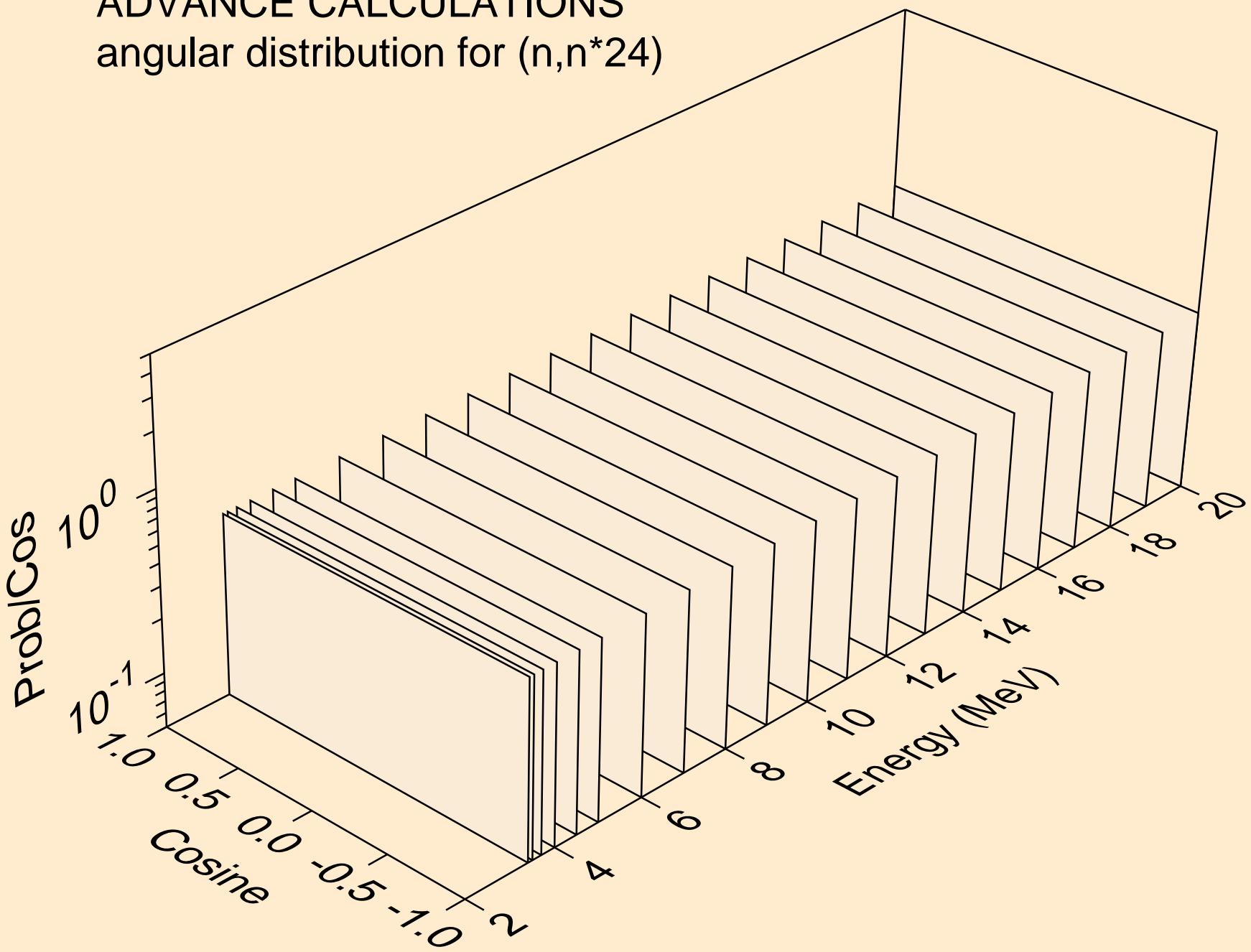
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*23)



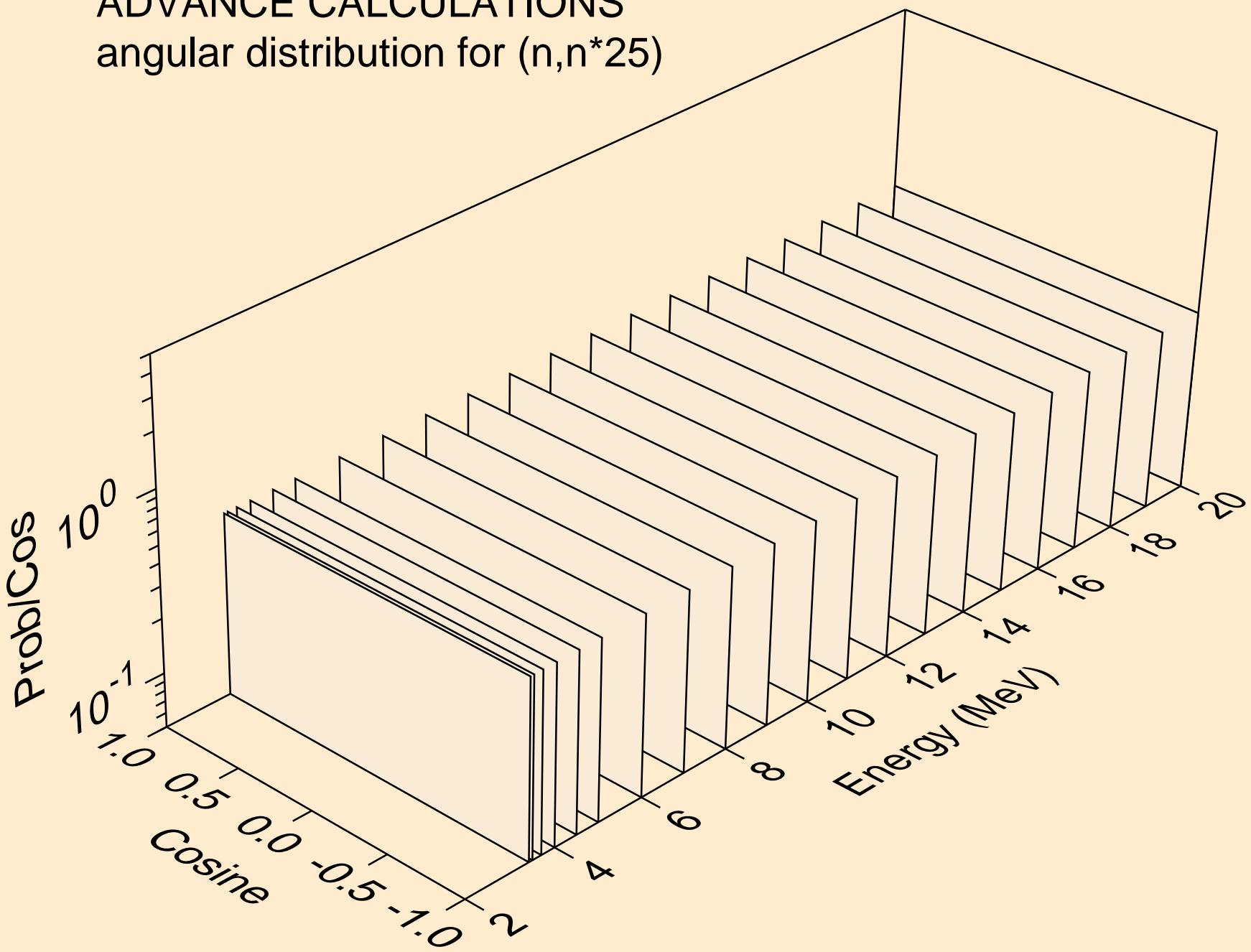
# ADVANCE CALCULATIONS

angular distribution for (n,n\*24)



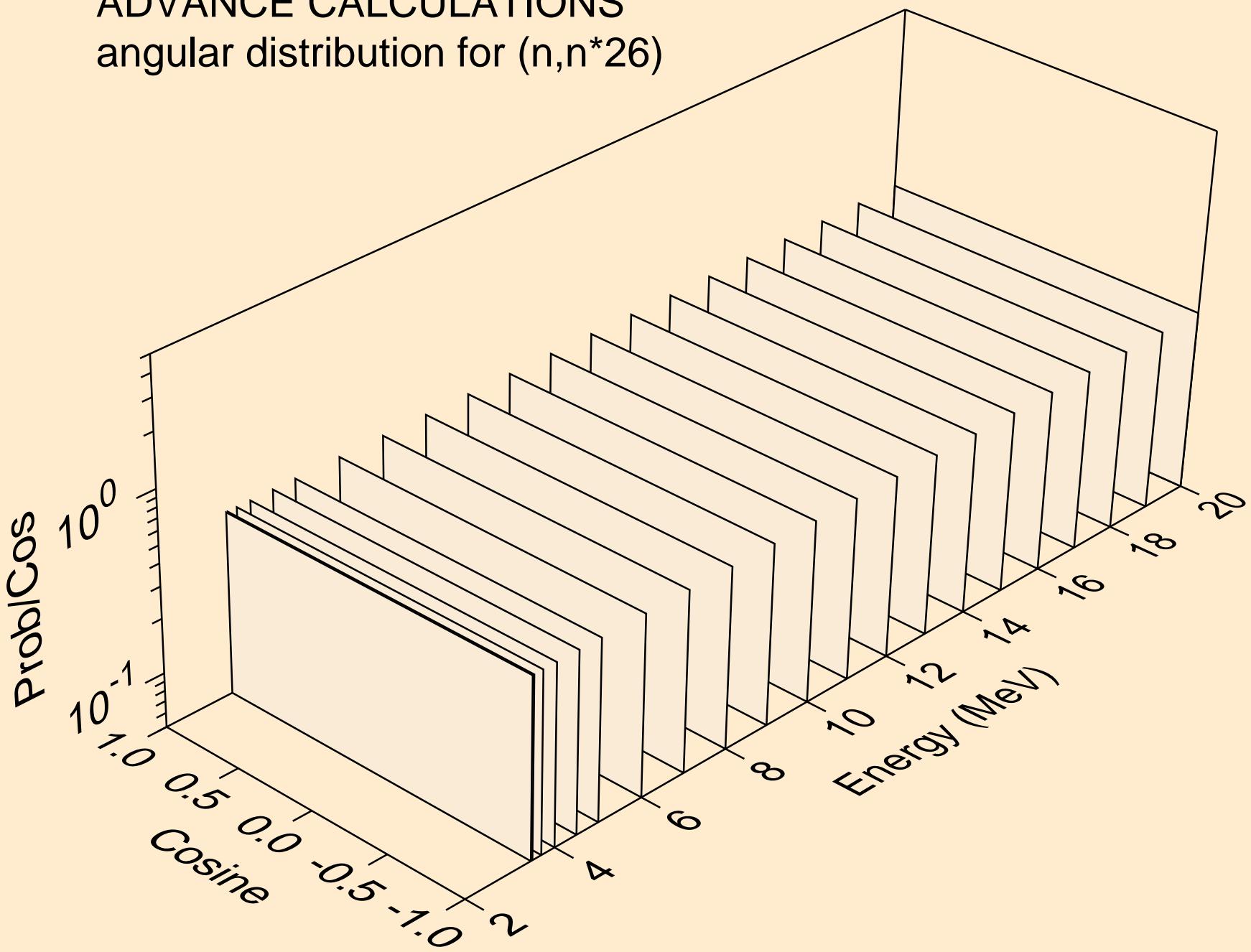
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*25)



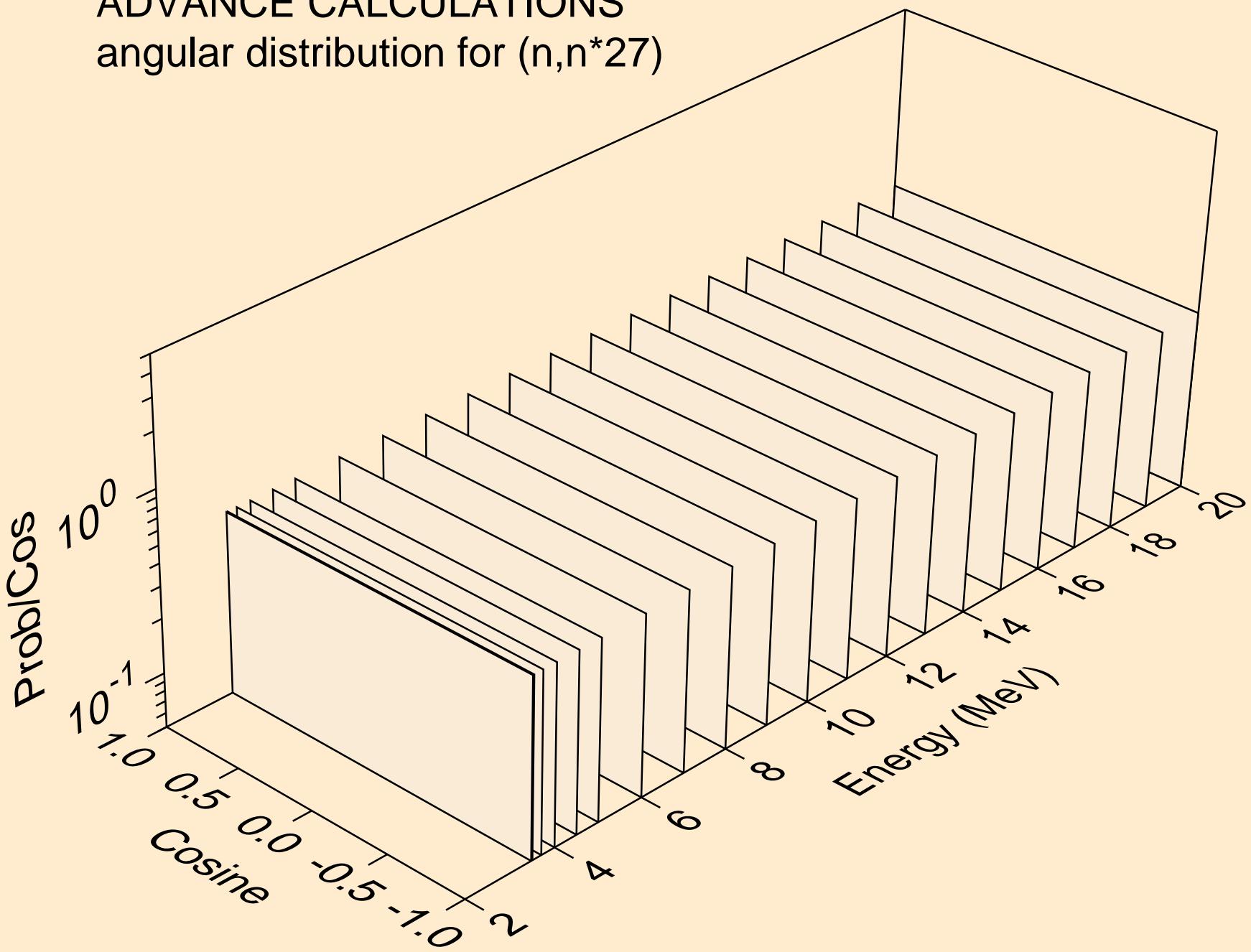
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*26)



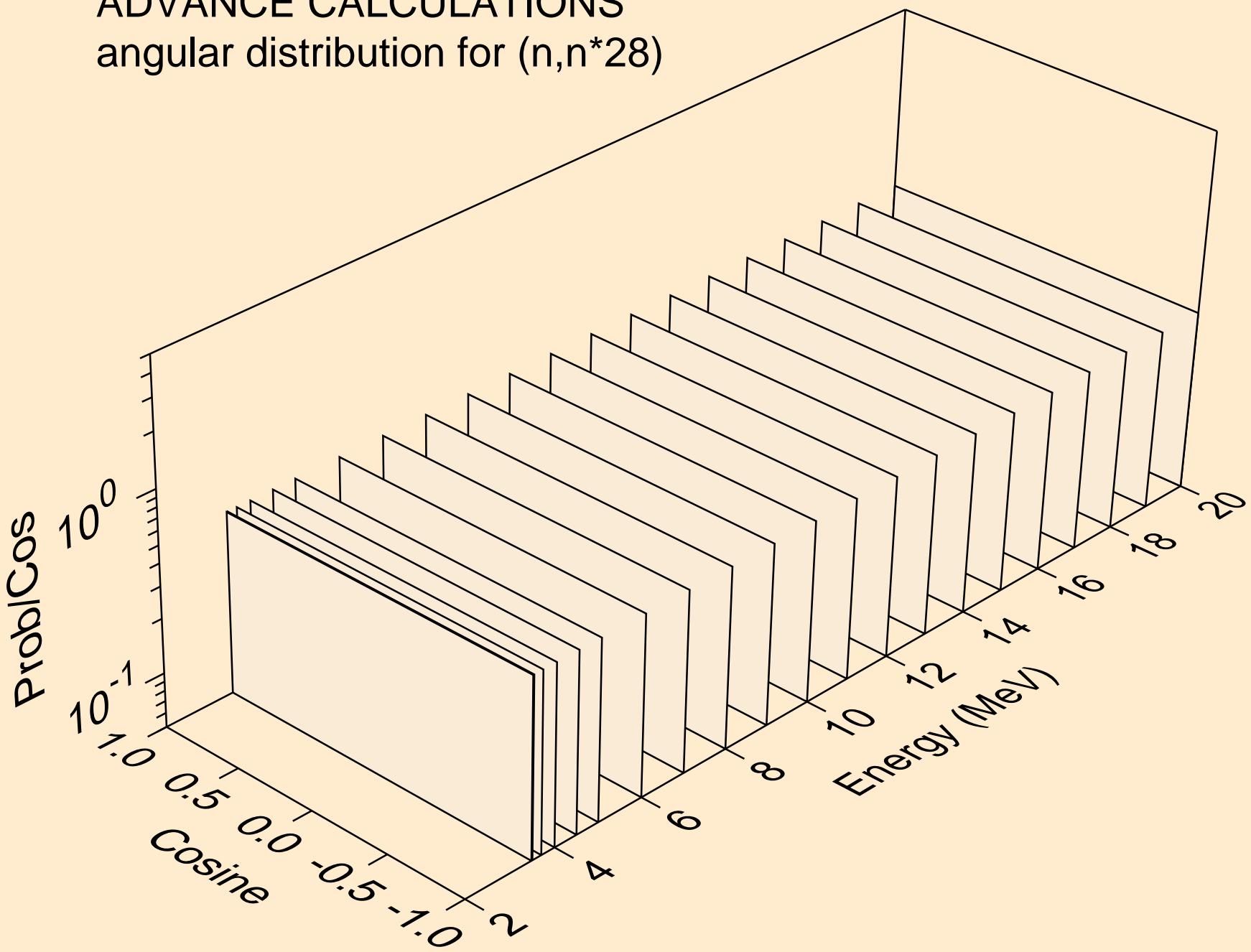
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*27)



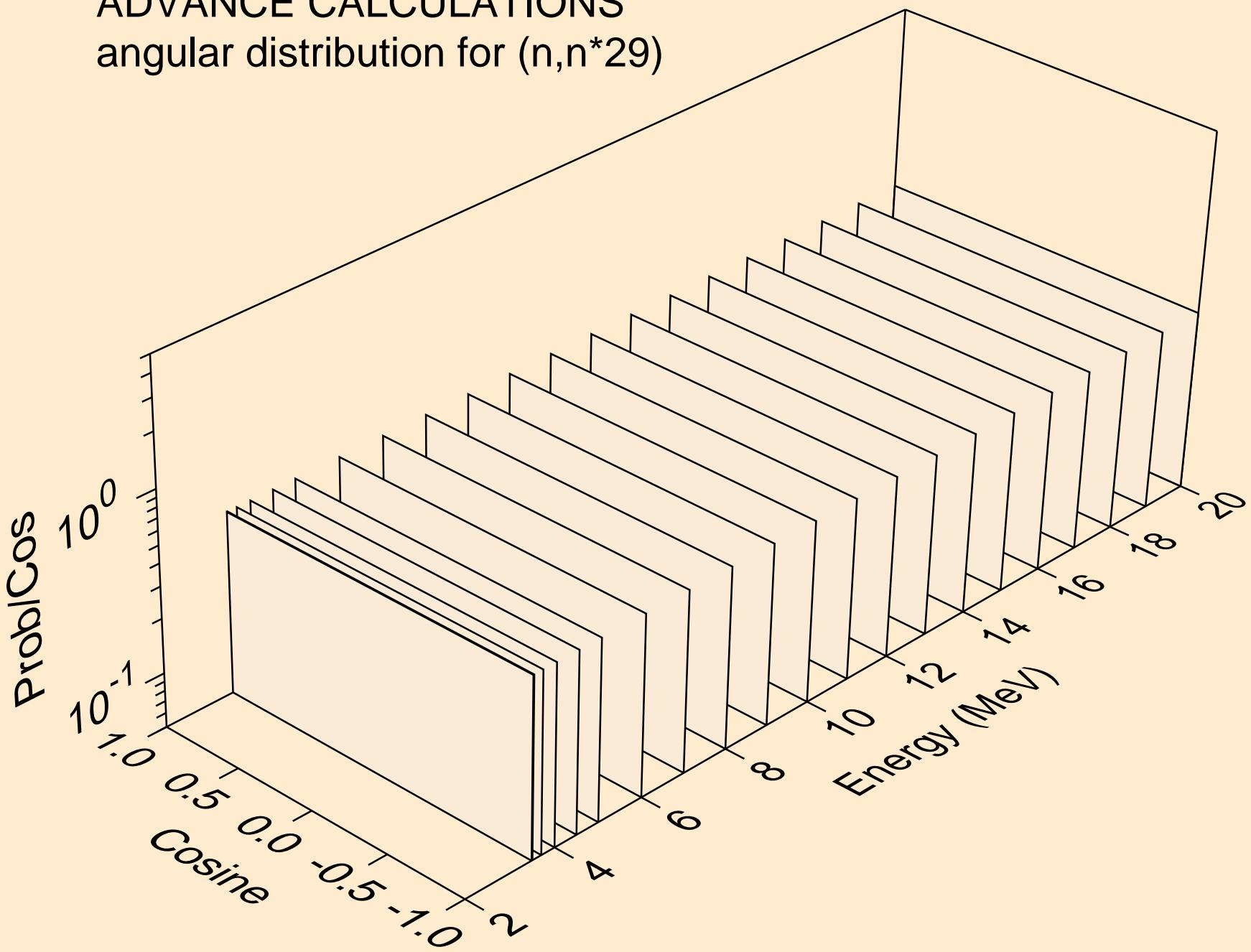
# ADVANCE CALCULATIONS

angular distribution for (n,n\*28)



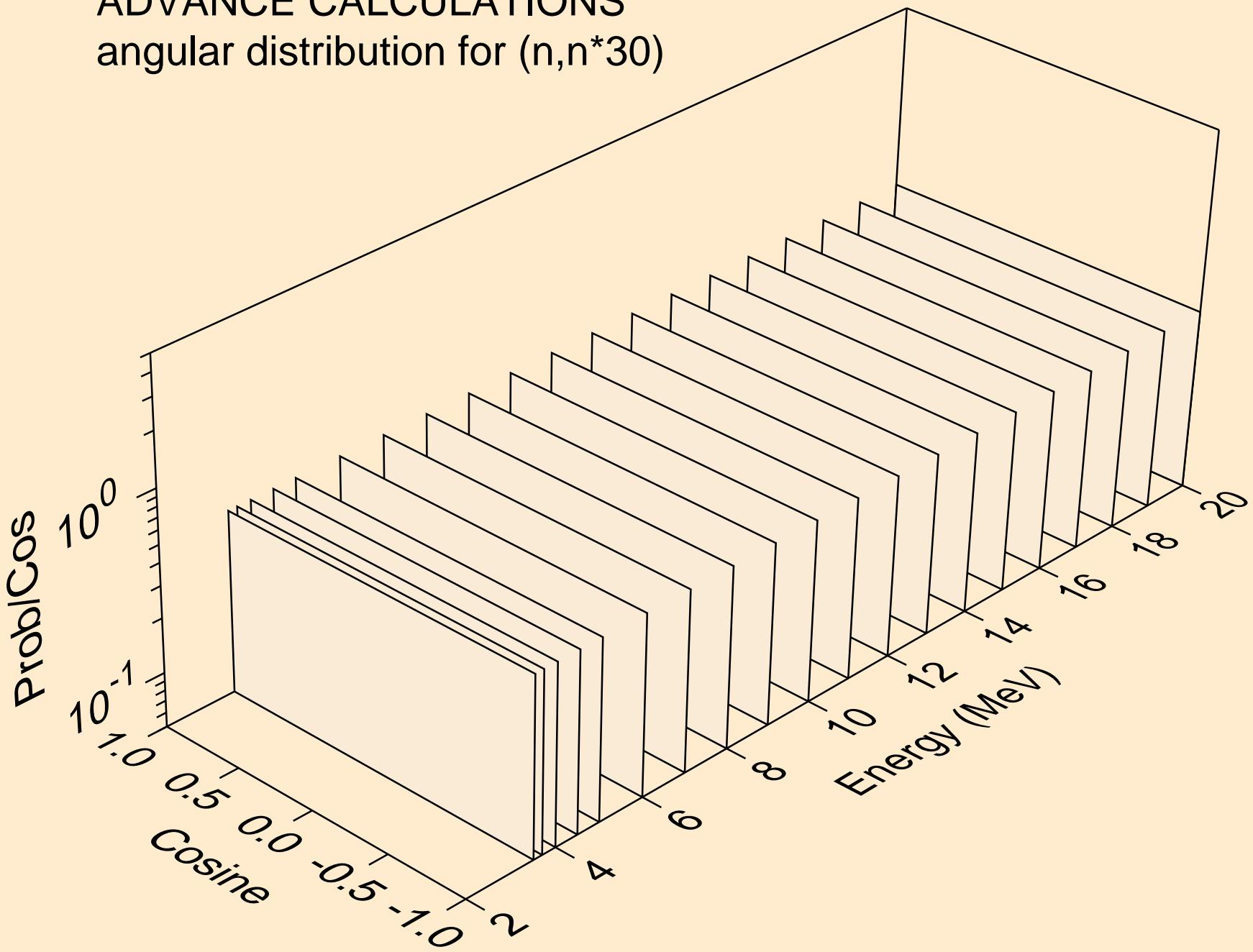
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*29)



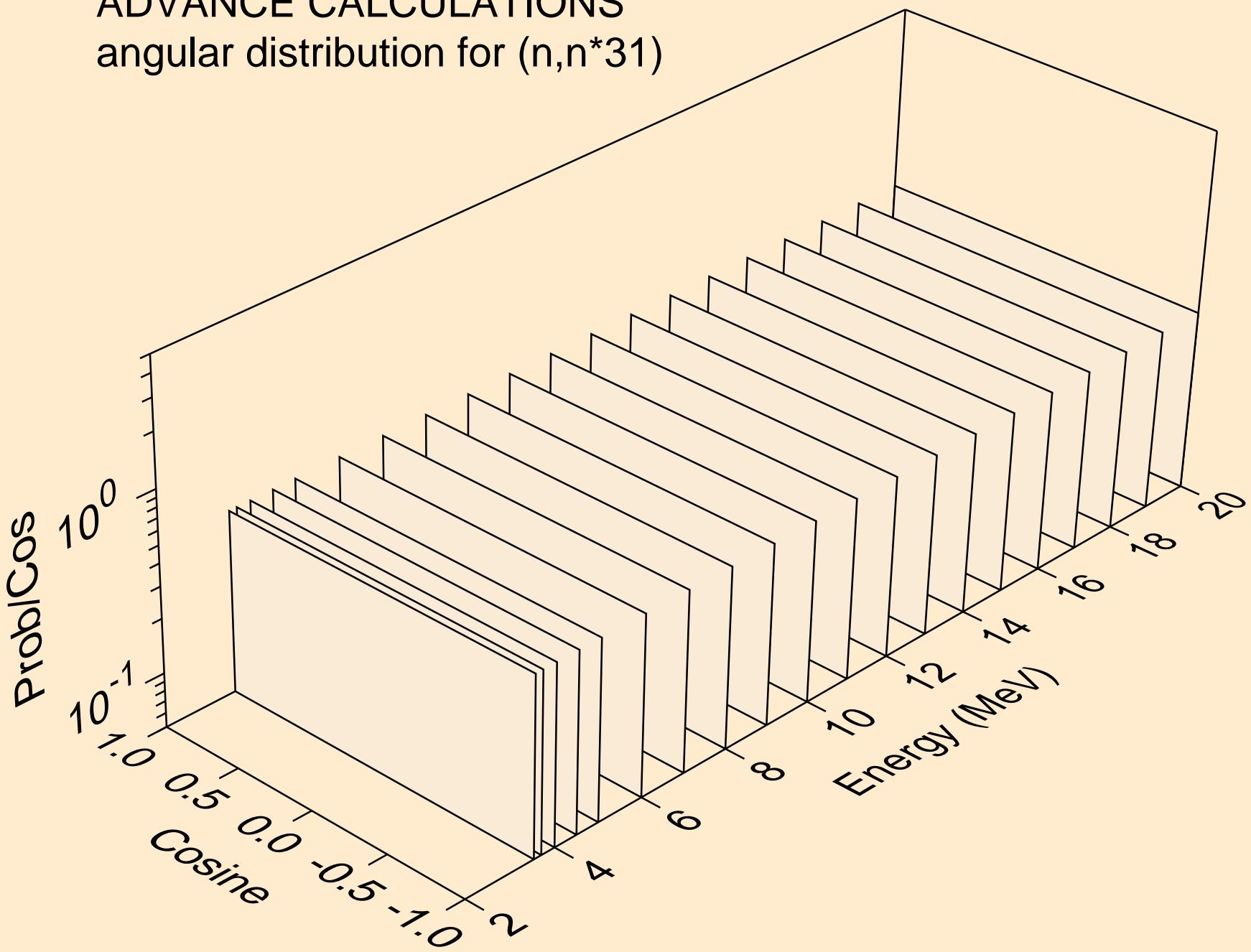
# ADVANCE CALCULATIONS

angular distribution for (n,n\*30)



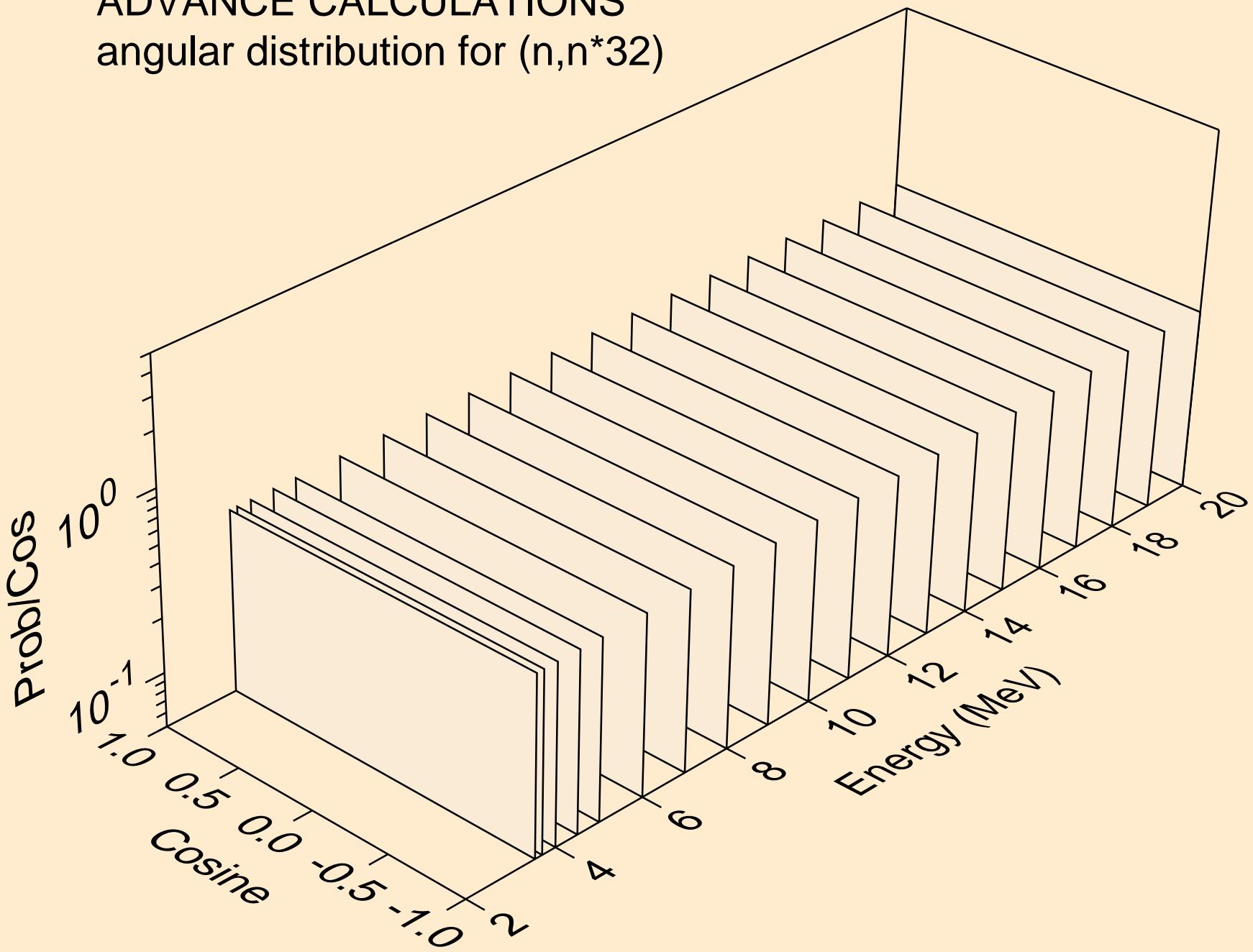
# ADVANCE CALCULATIONS

angular distribution for (n,n\*31)



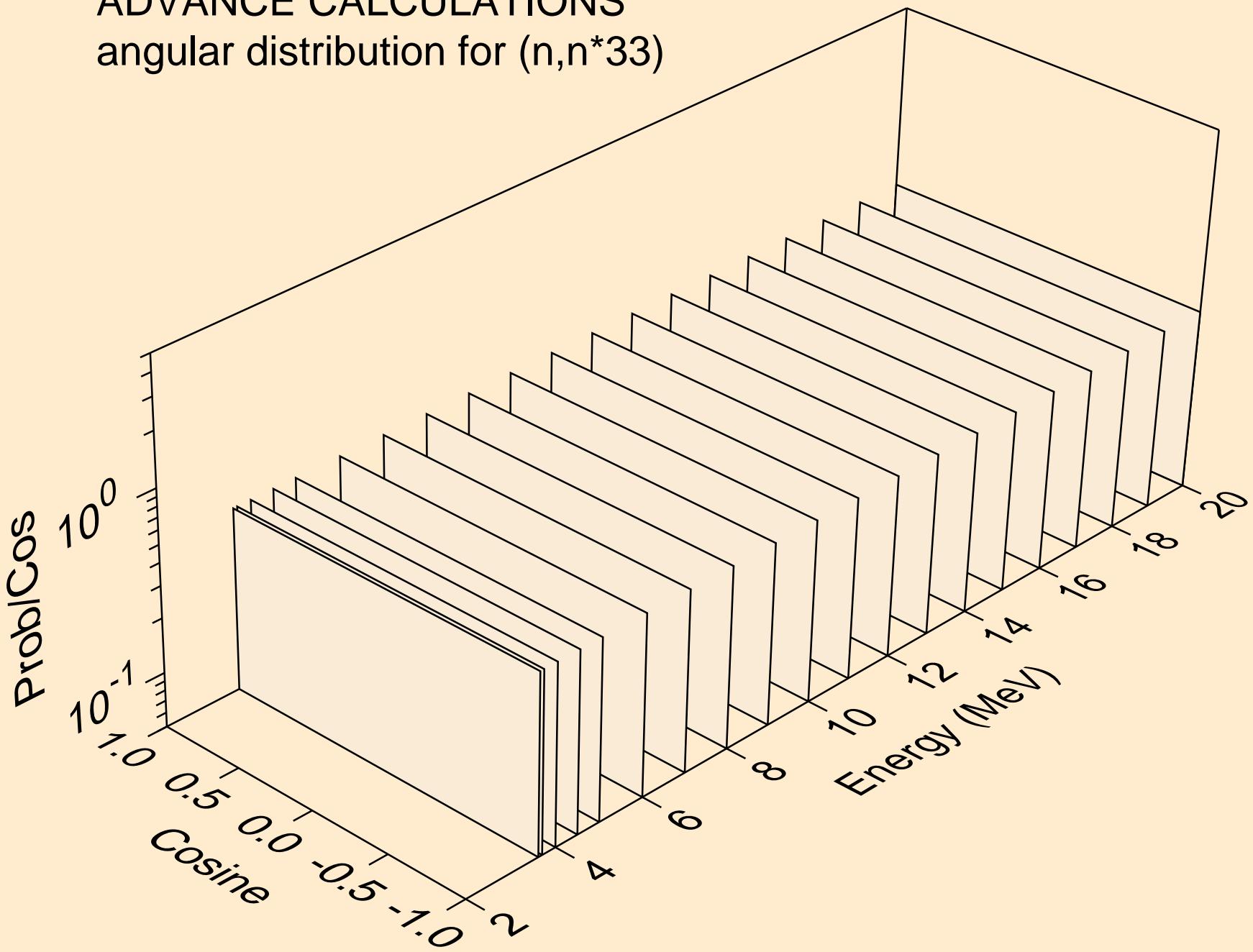
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*32)$



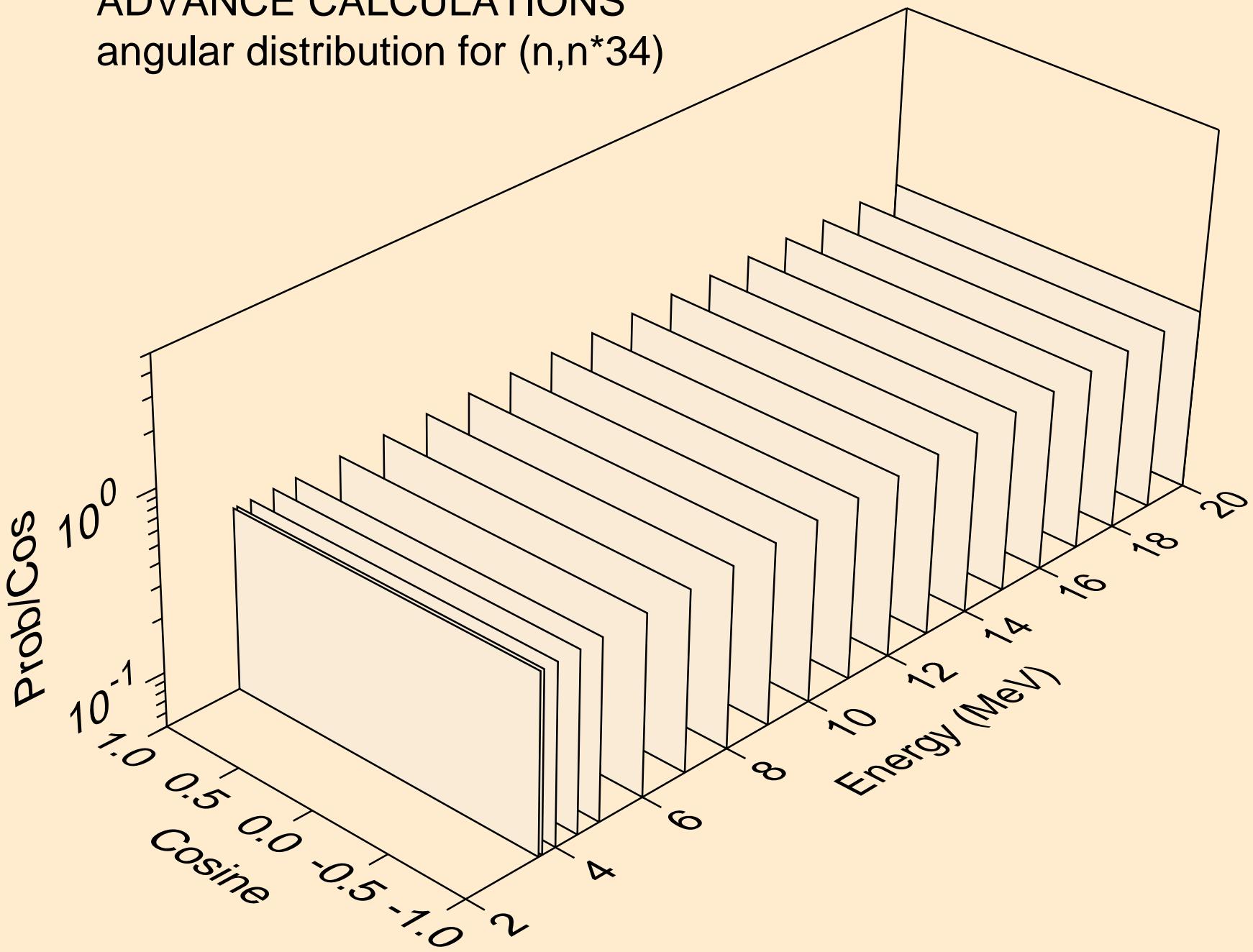
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*33)



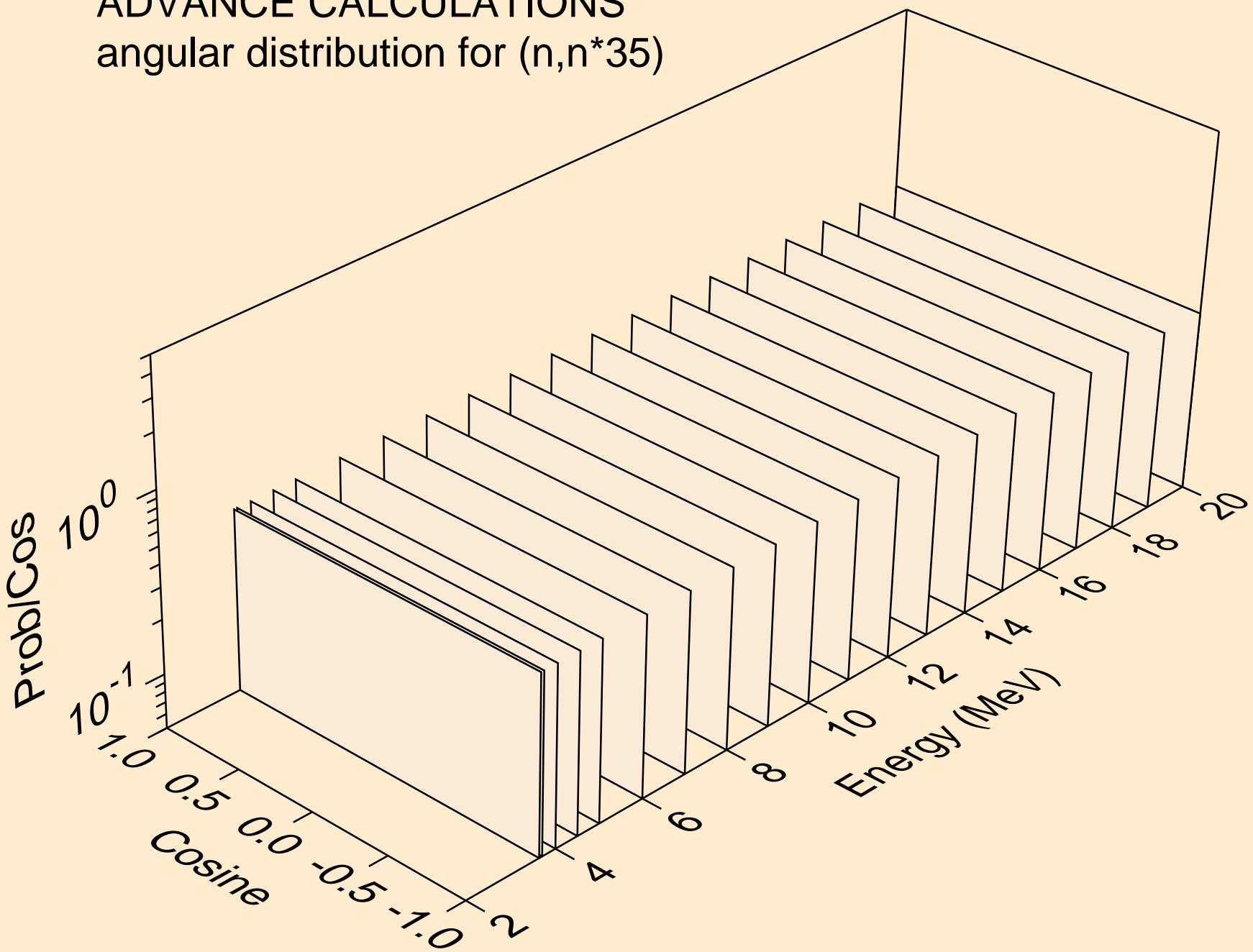
# ADVANCE CALCULATIONS

angular distribution for (n,n\*34)



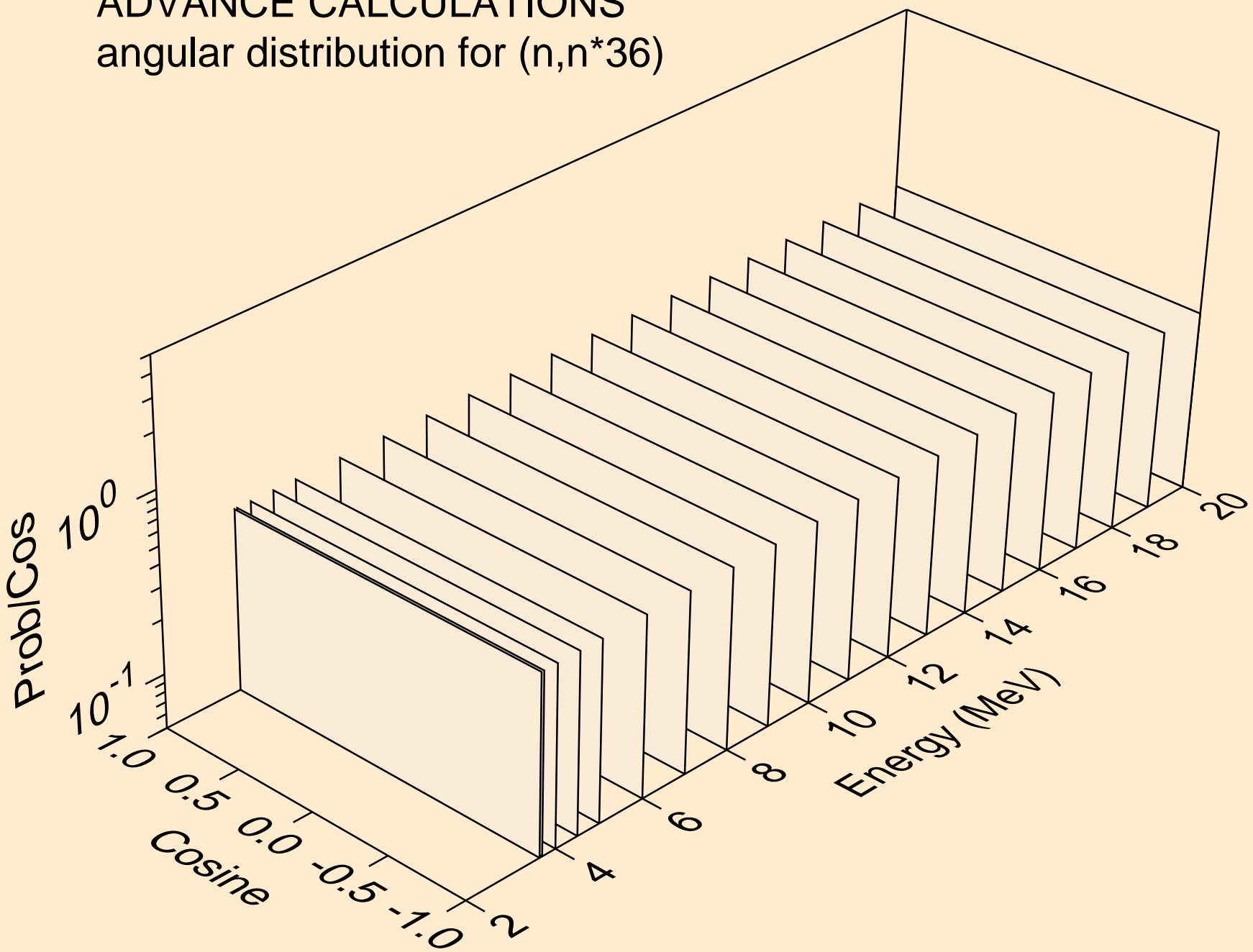
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*35)



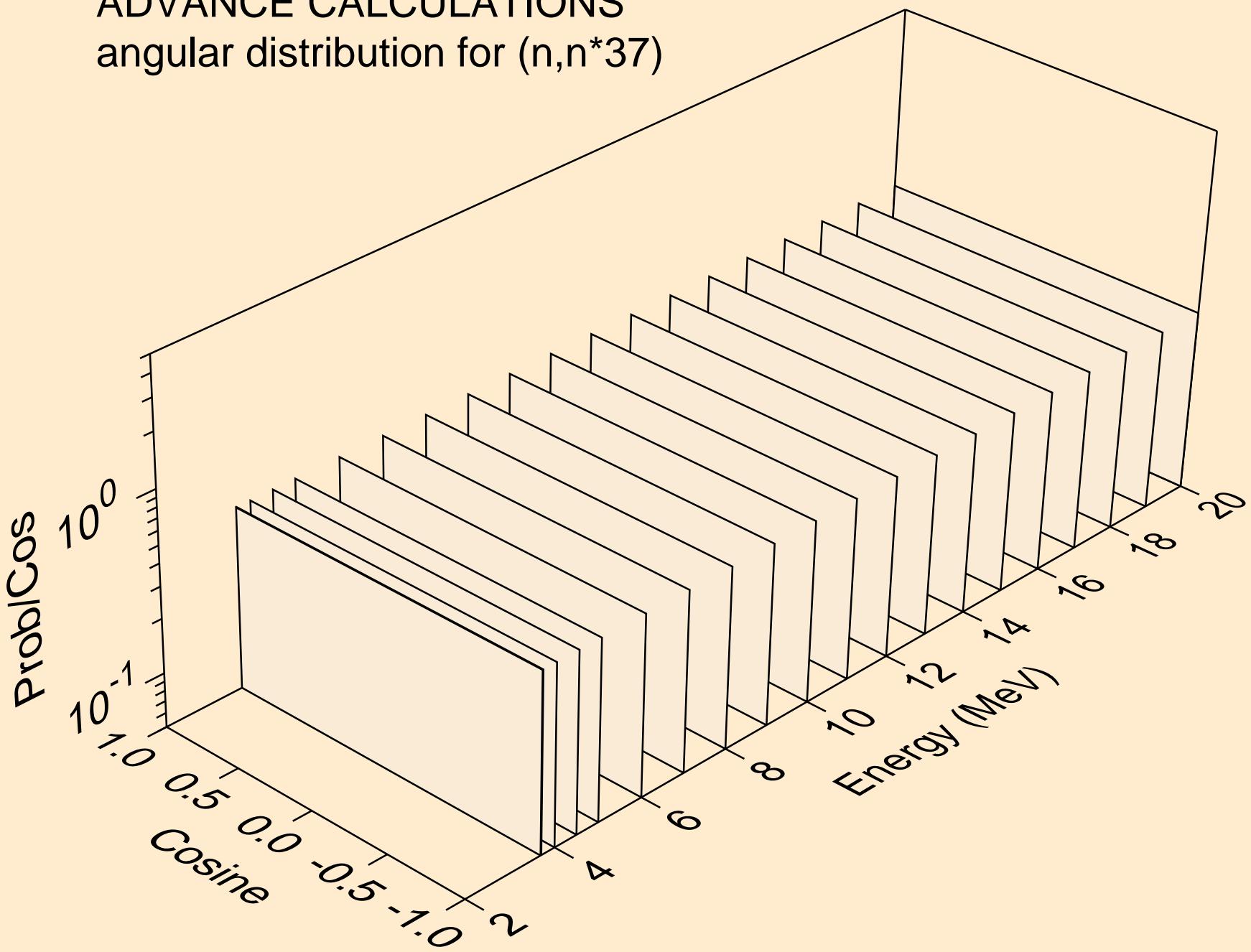
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*36)



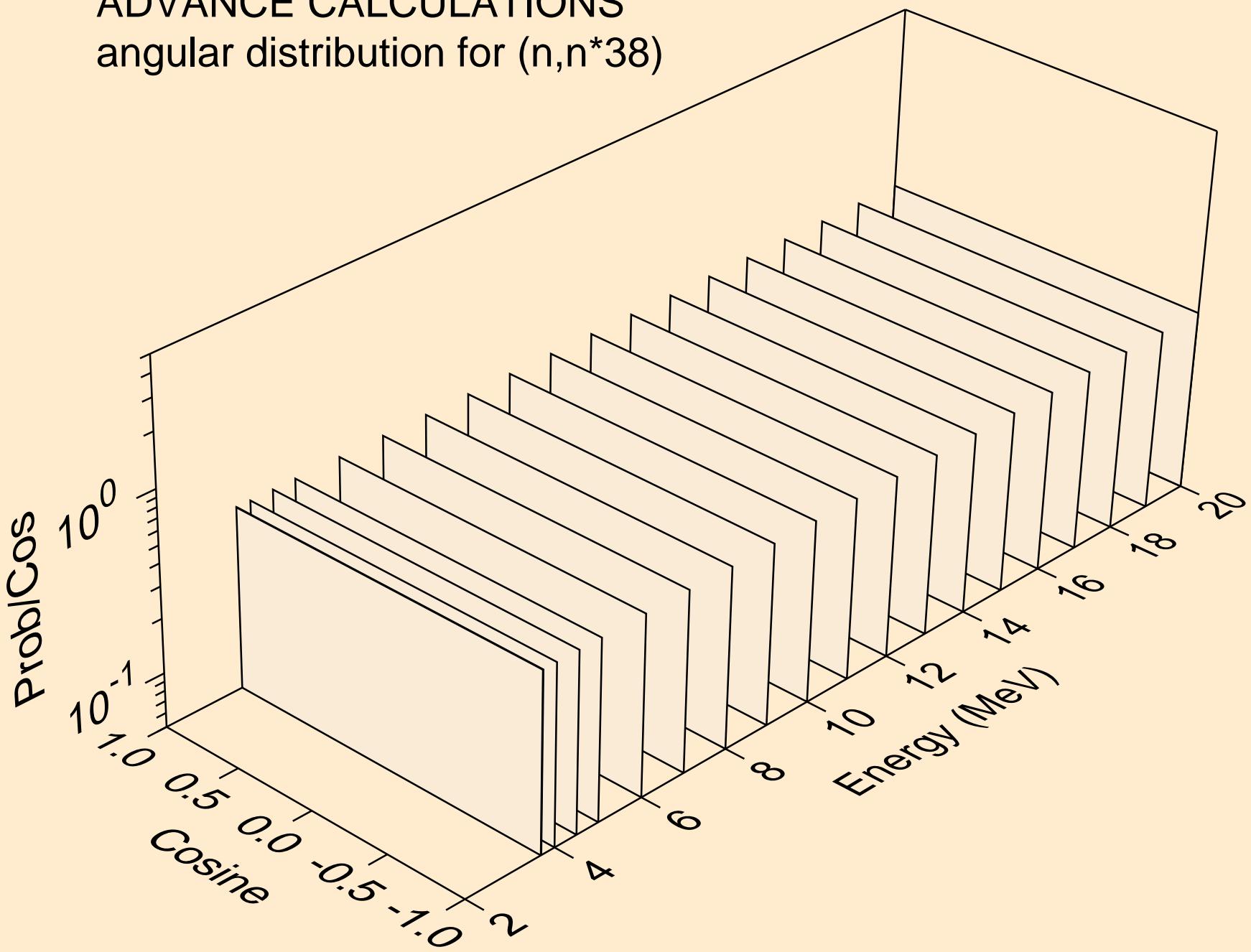
# ADVANCE CALCULATIONS

## angular distribution for ( $n, n^*37$ )



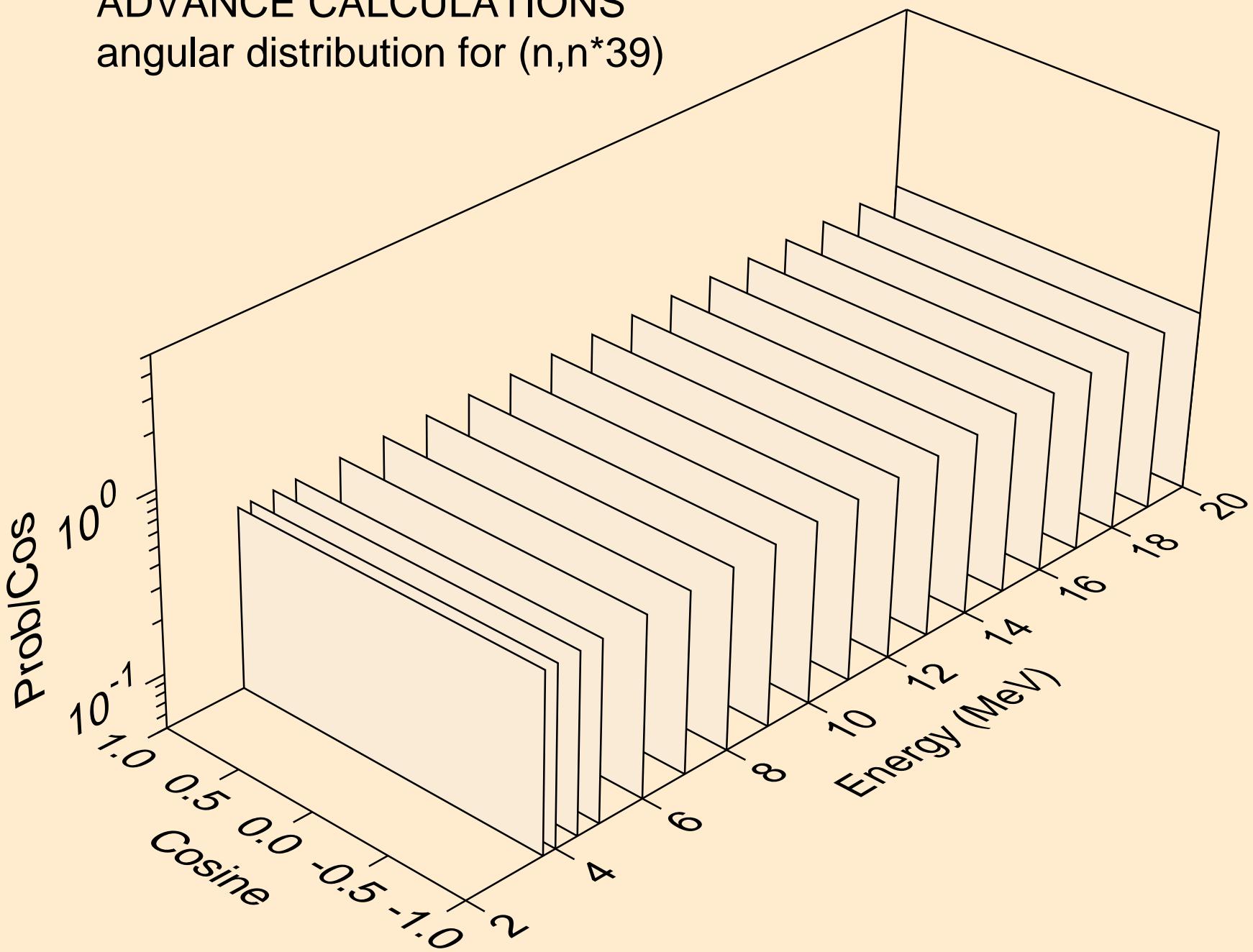
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*38)



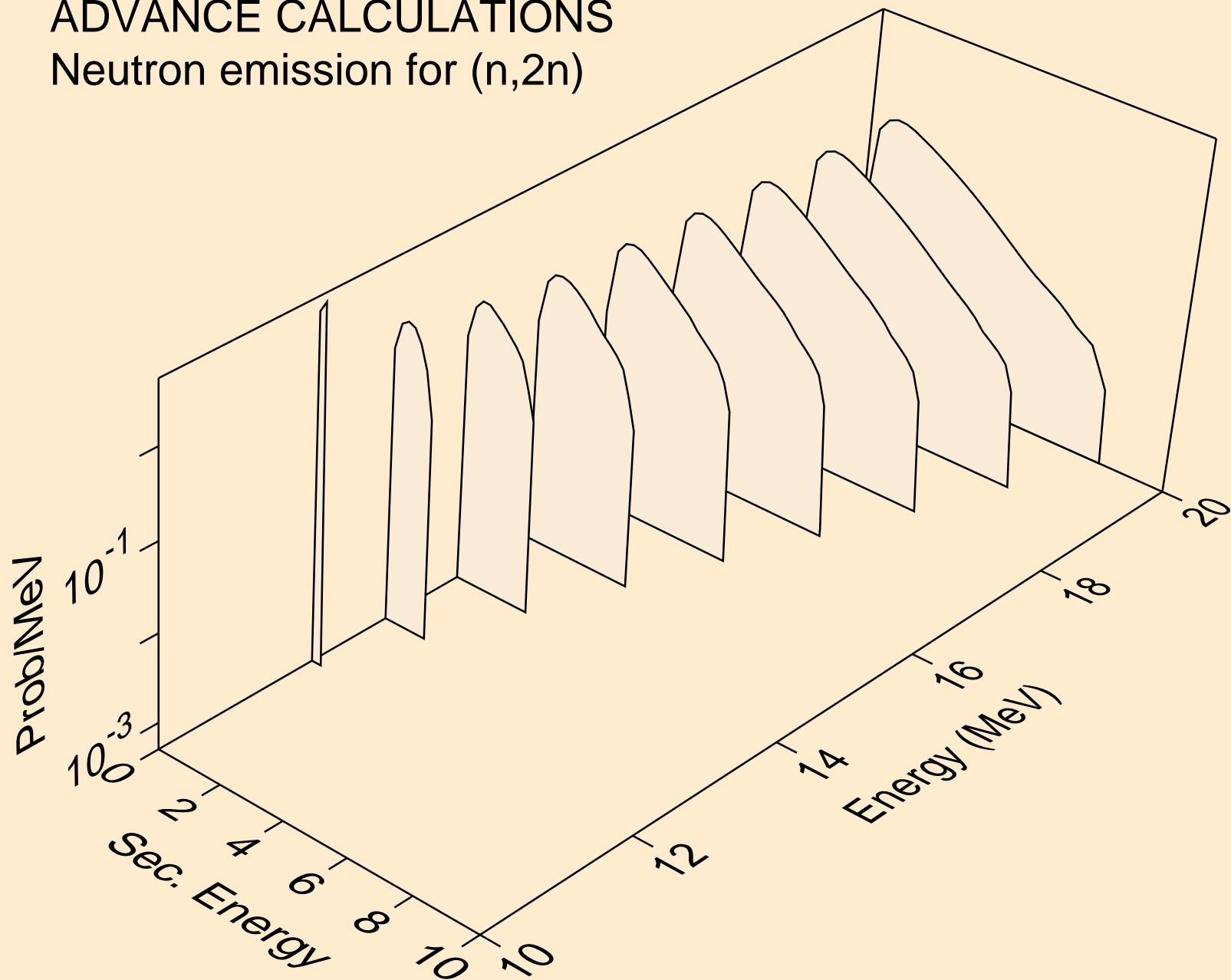
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*39)



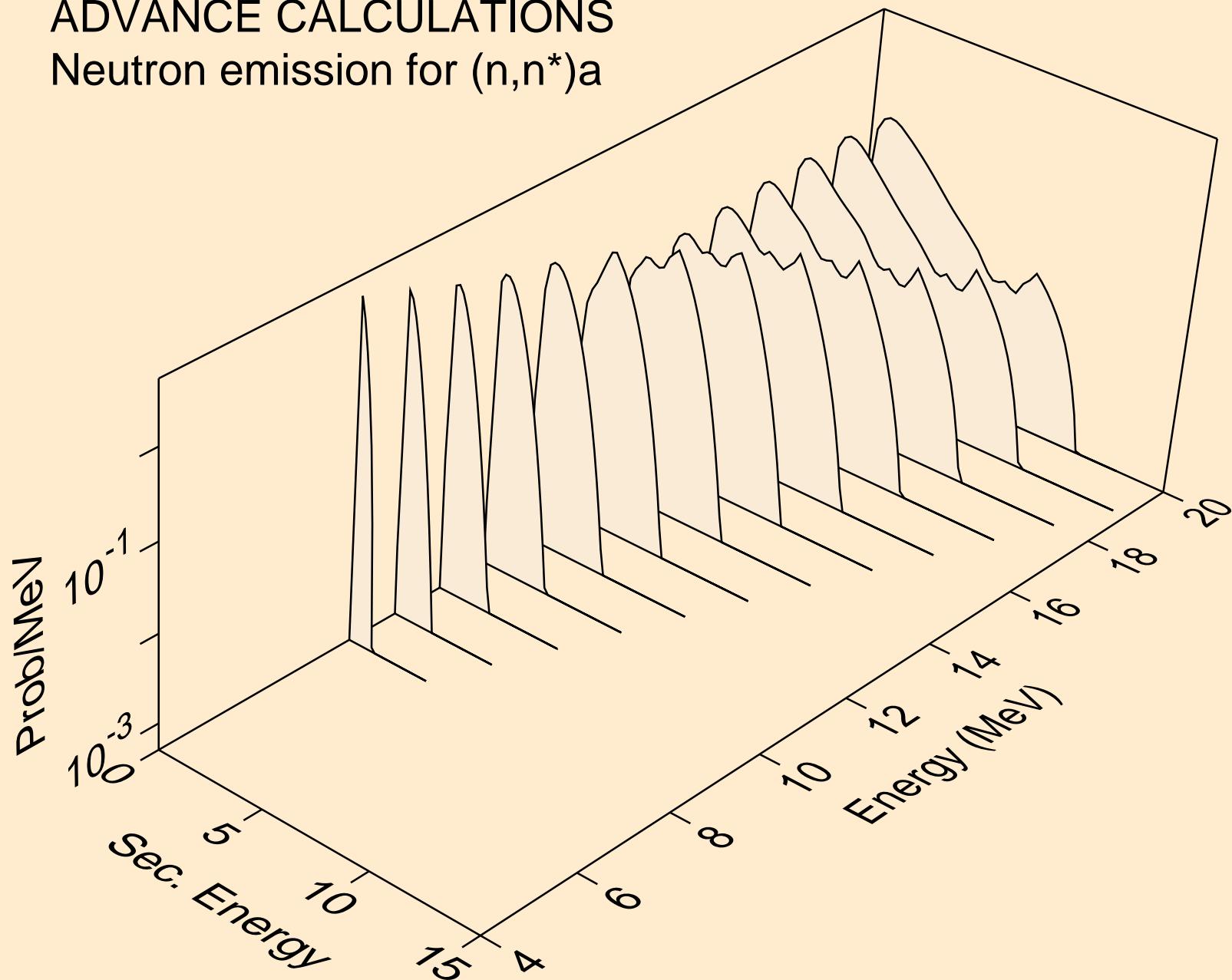
# ADVANCE CALCULATIONS

## Neutron emission for (n,2n)



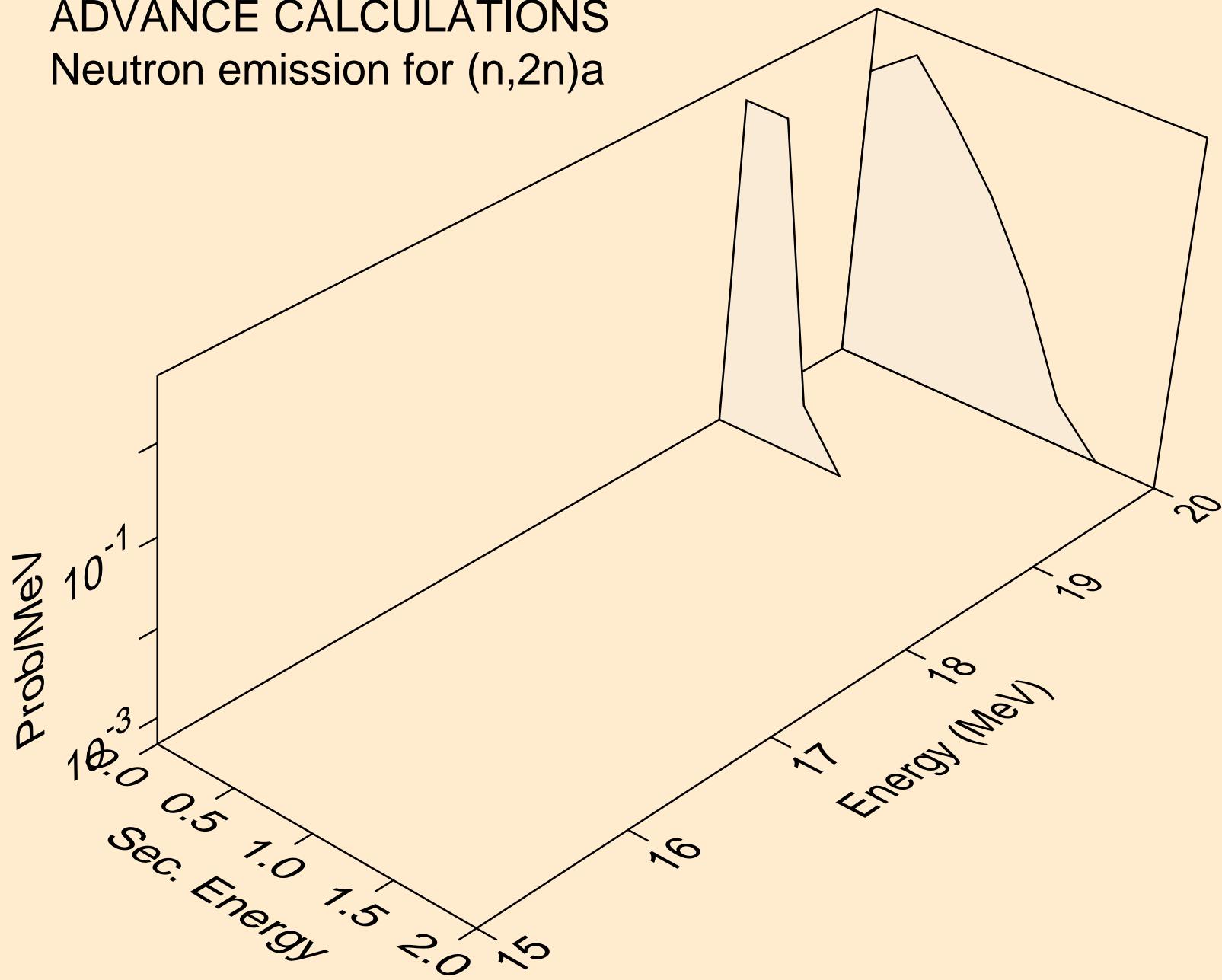
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)a$



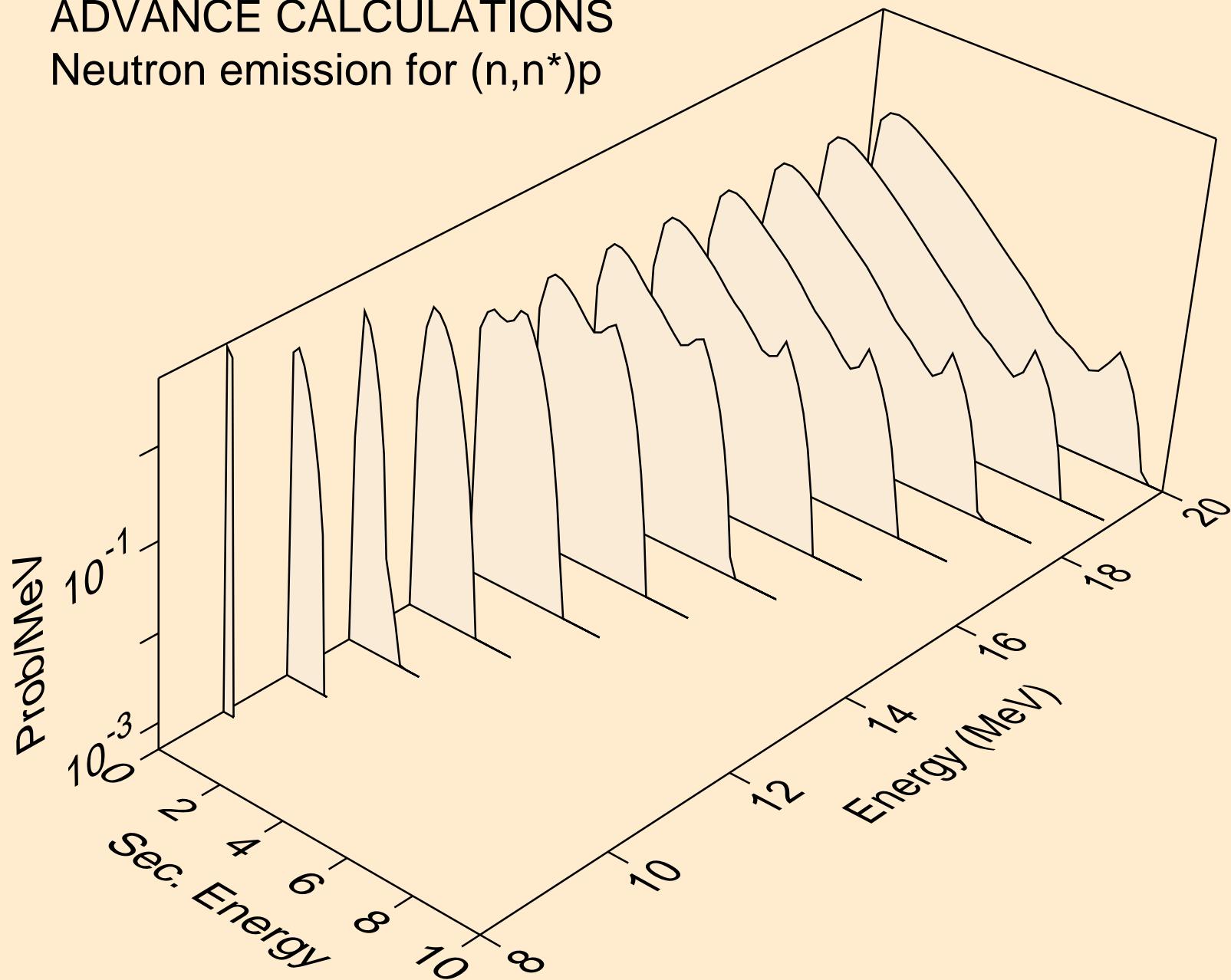
# ADVANCE CALCULATIONS

## Neutron emission for $(n,2n)a$



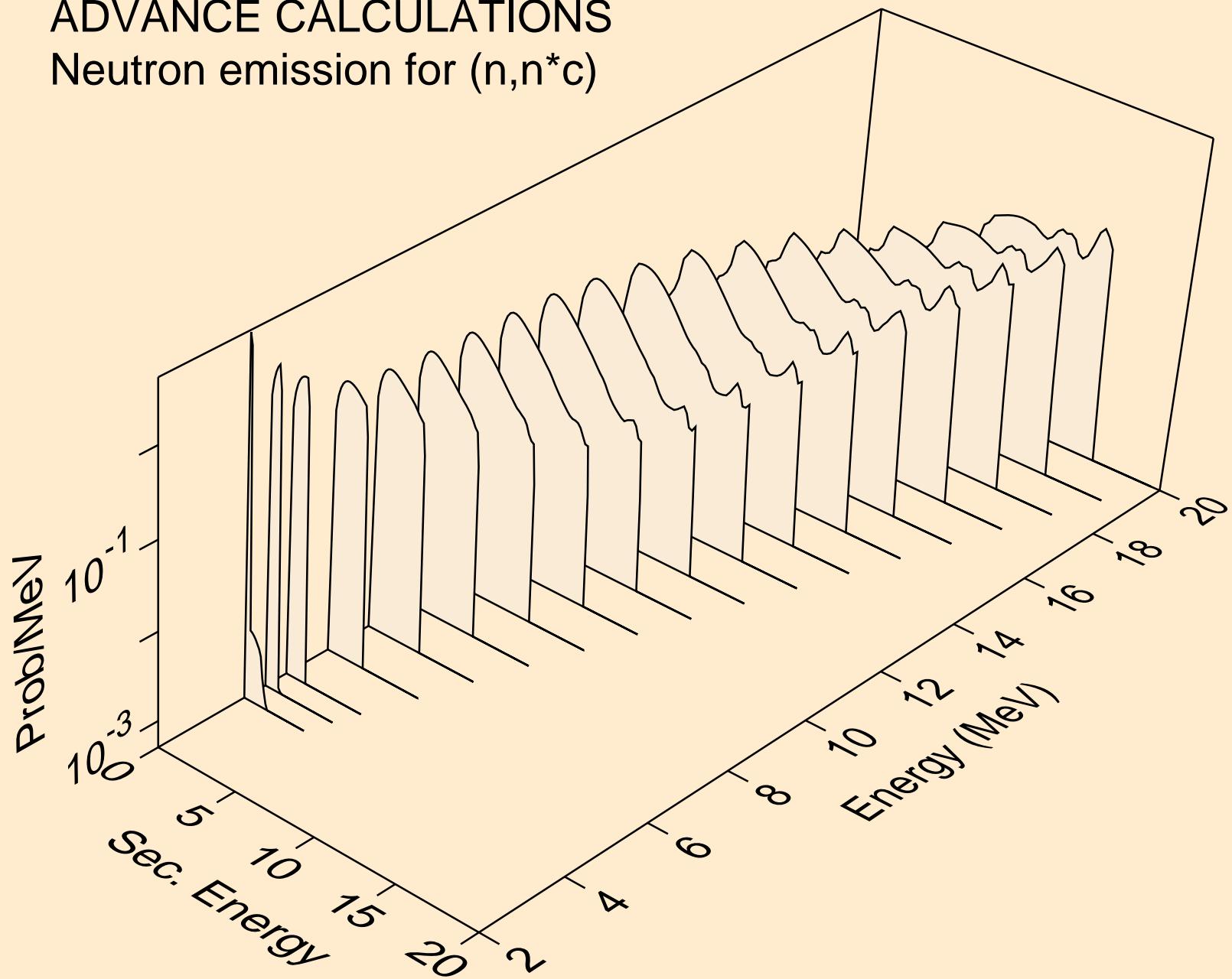
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)p$



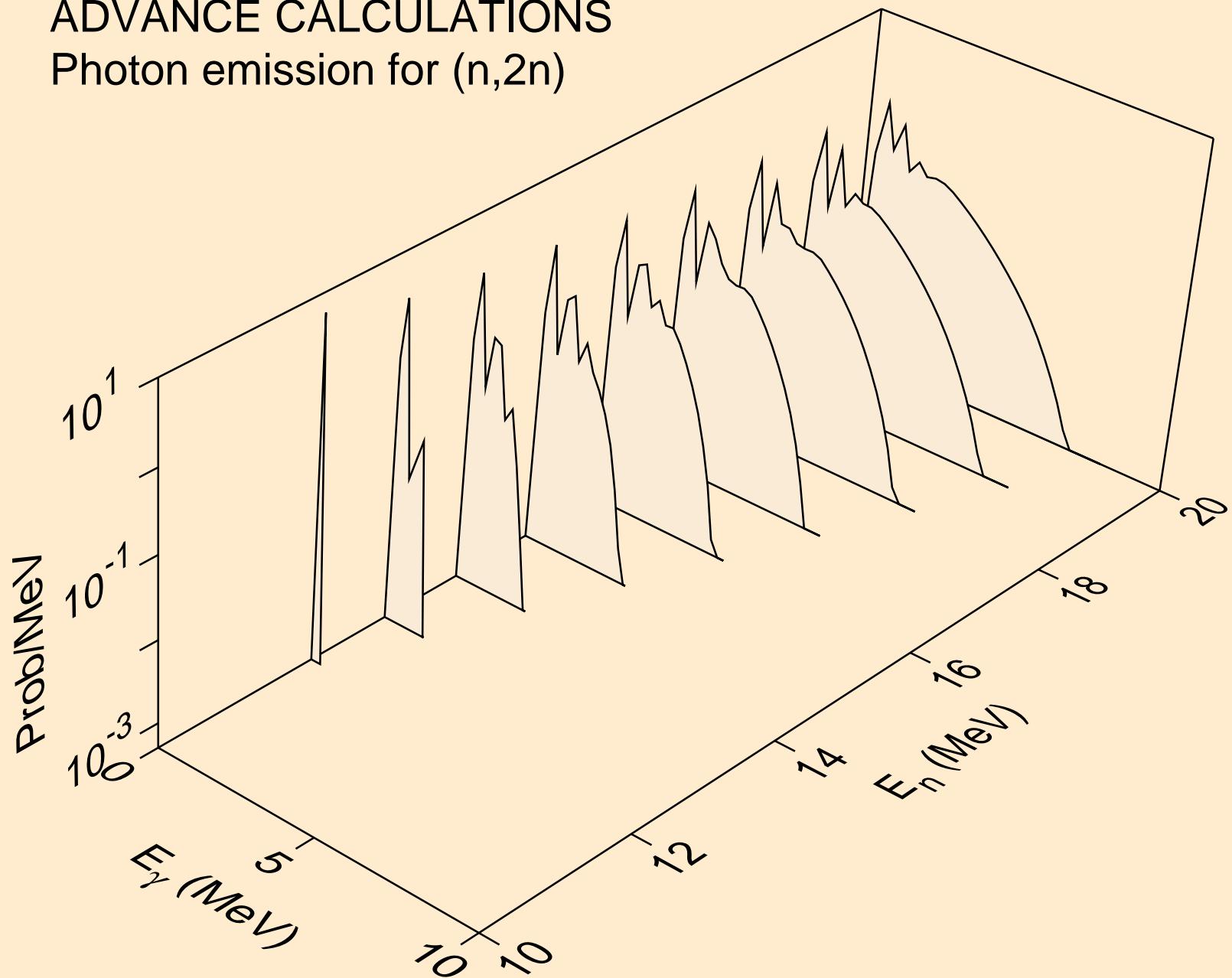
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*c)$



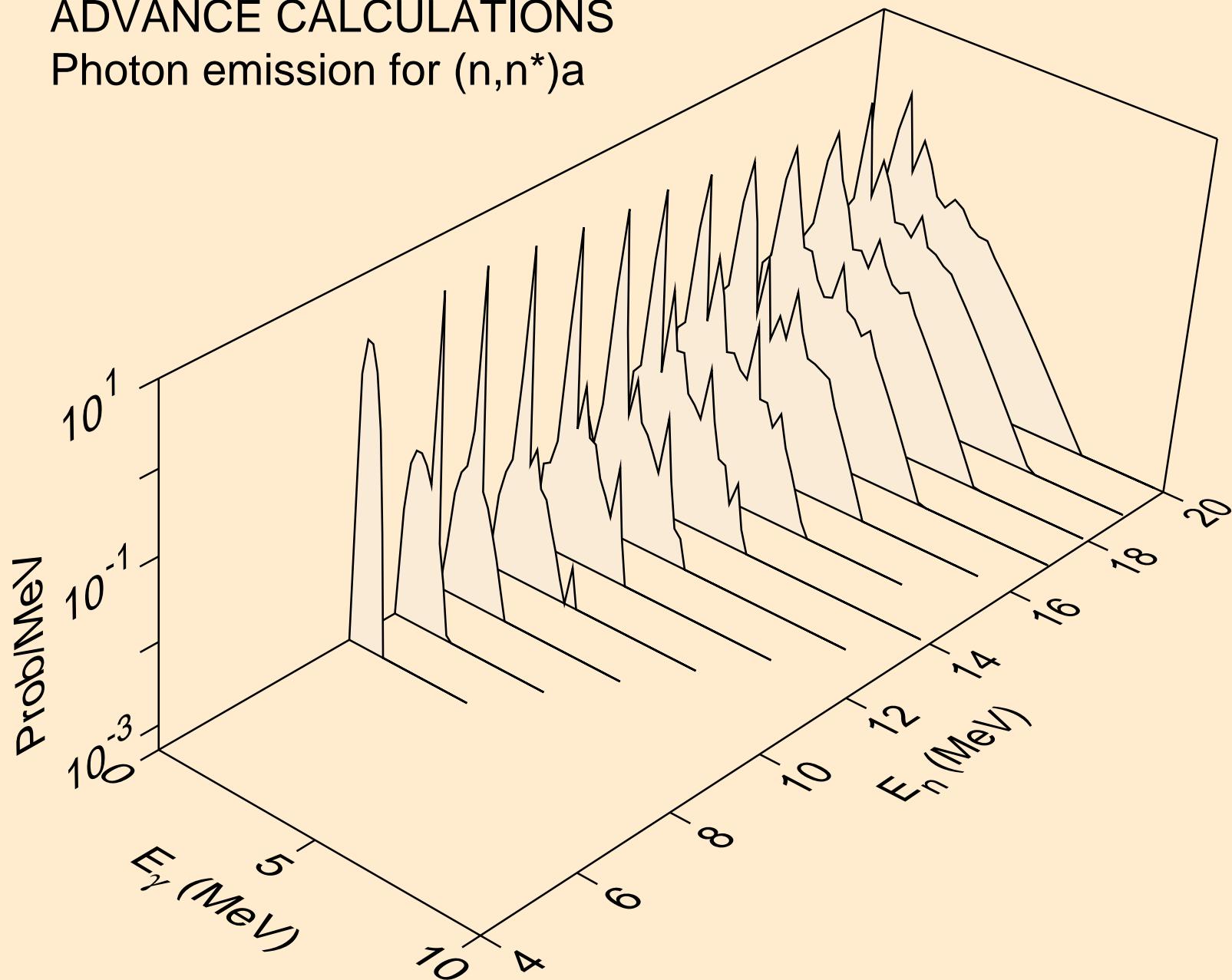
# ADVANCE CALCULATIONS

## Photon emission for (n,2n)



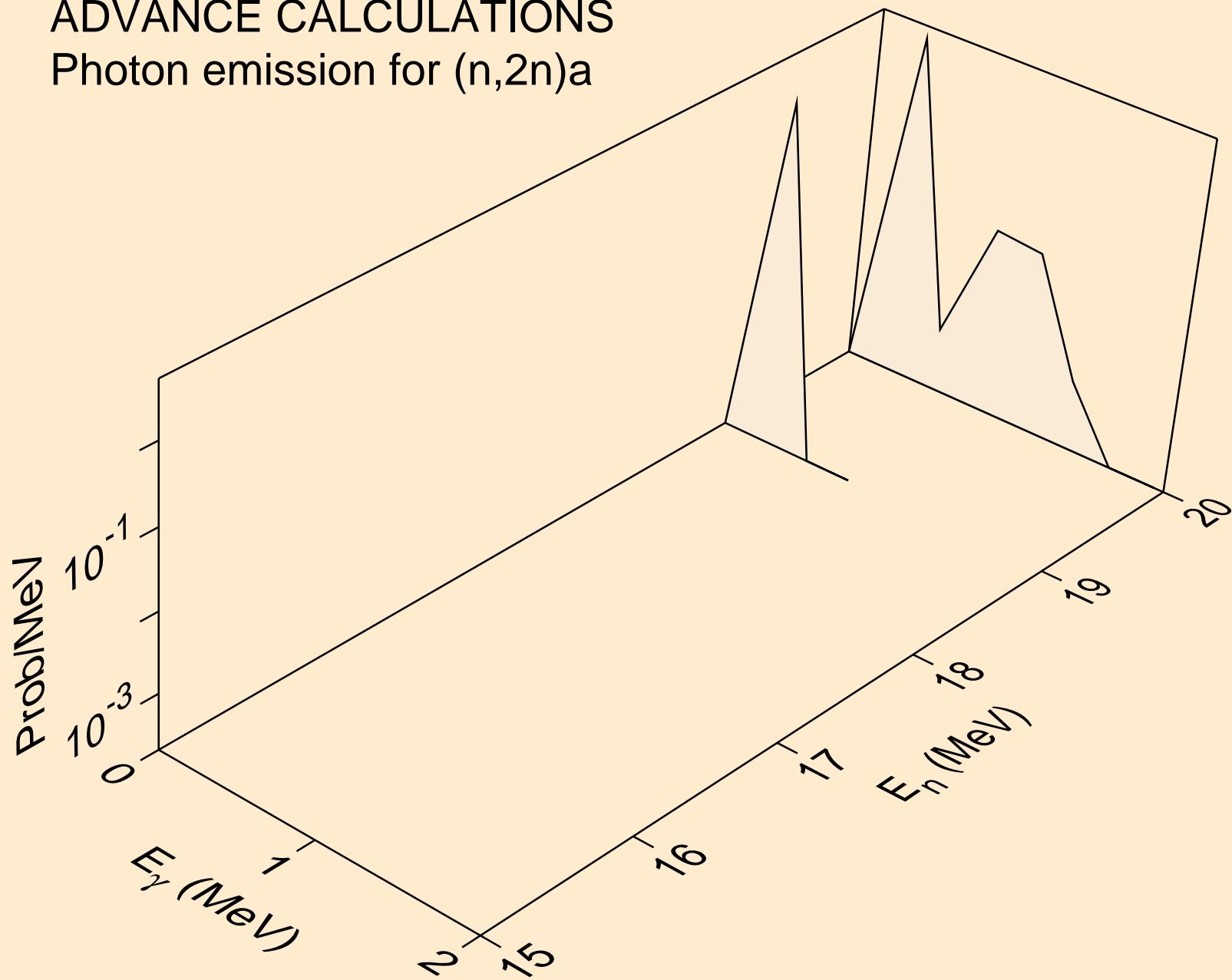
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*)a$



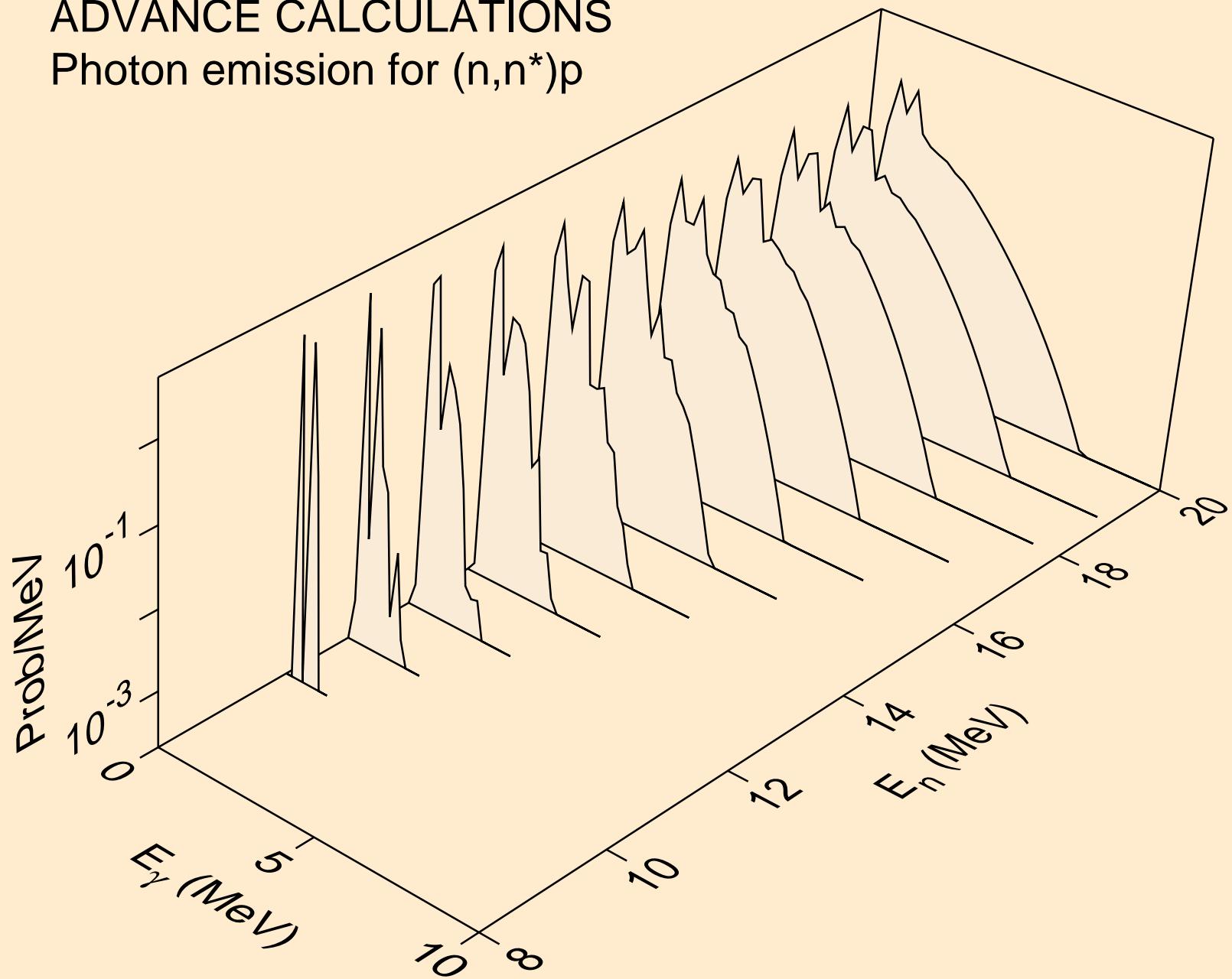
# ADVANCE CALCULATIONS

## Photon emission for (n,2n)a



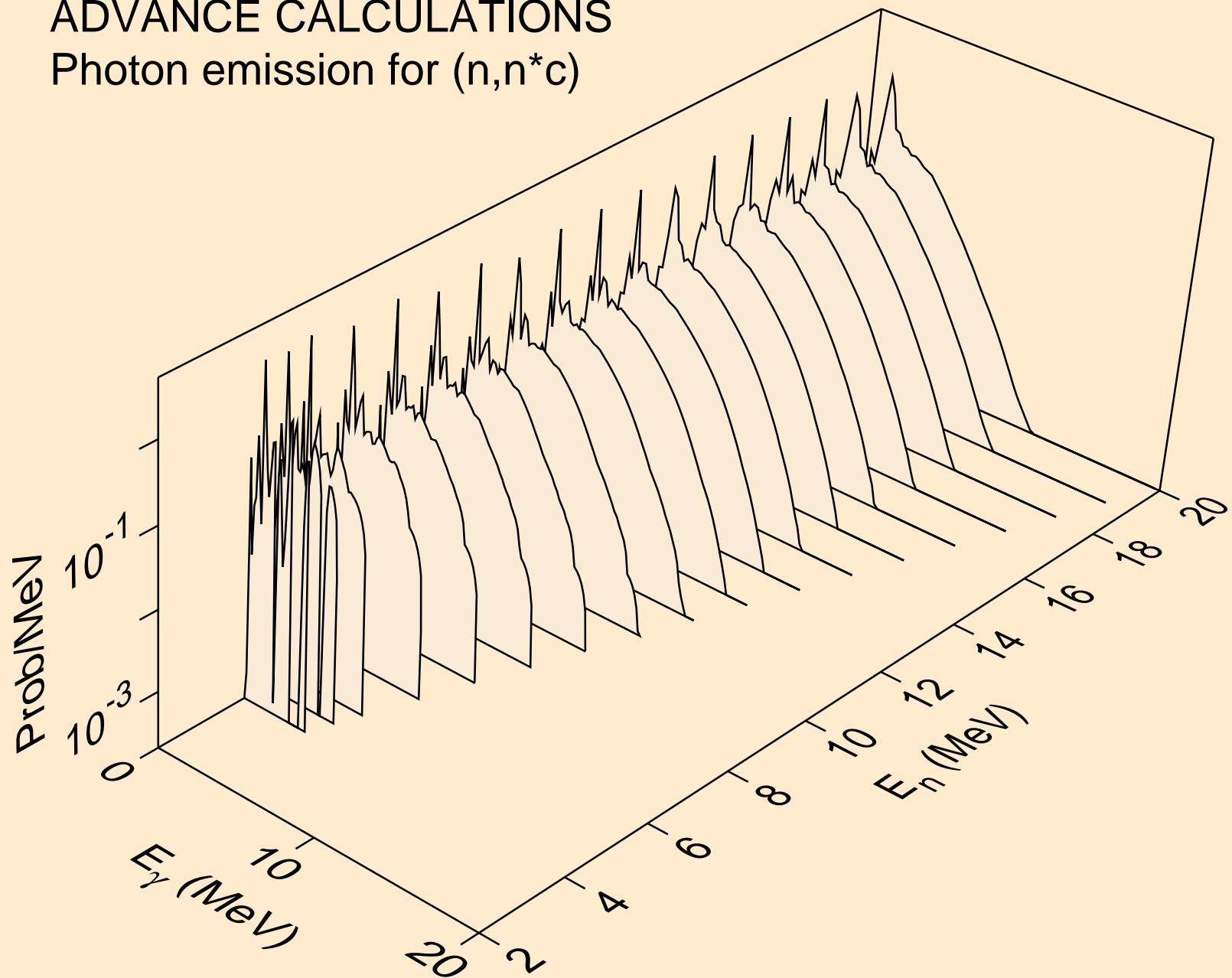
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*)p$



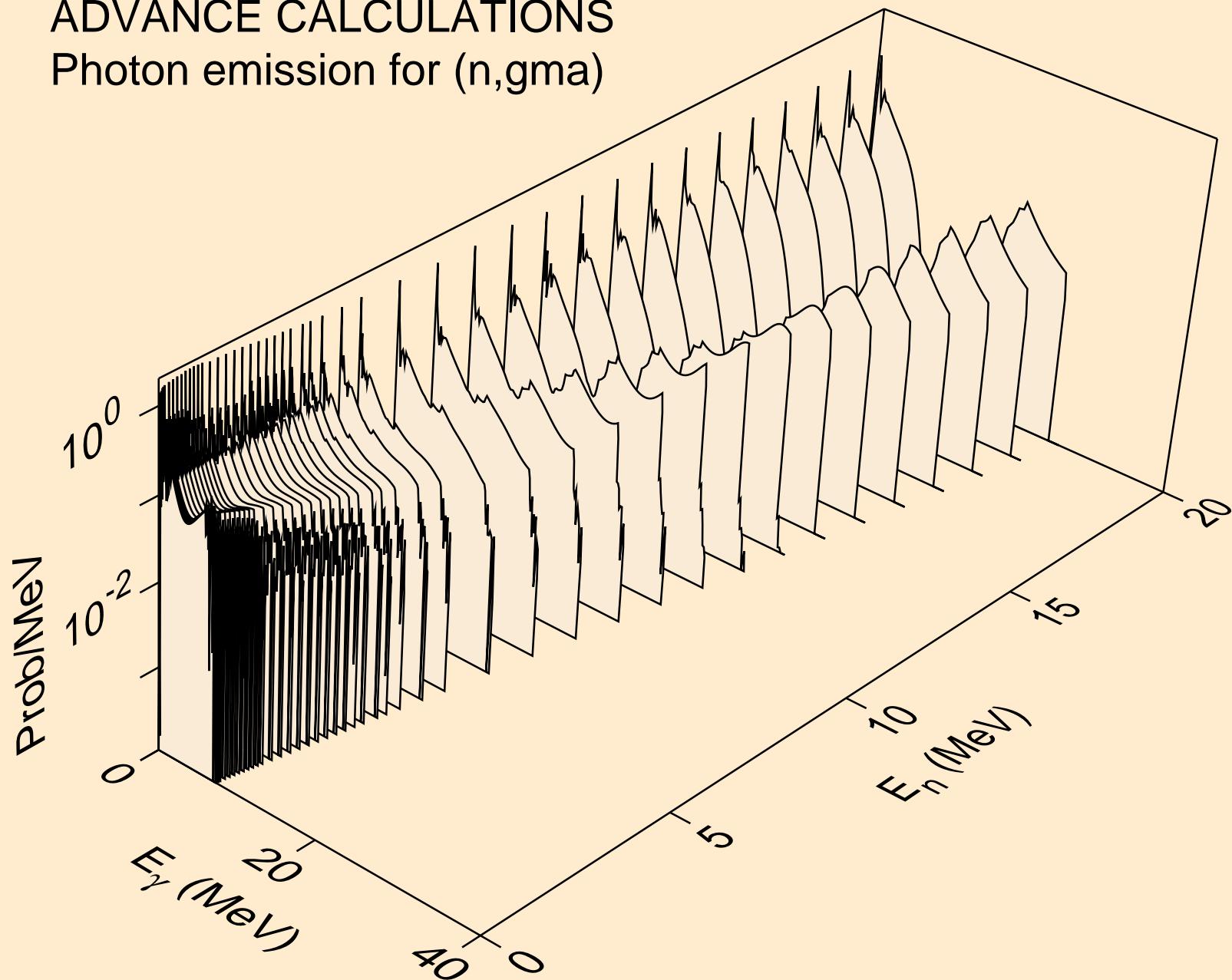
# ADVANCE CALCULATIONS

## Photon emission for (n,n\*c)



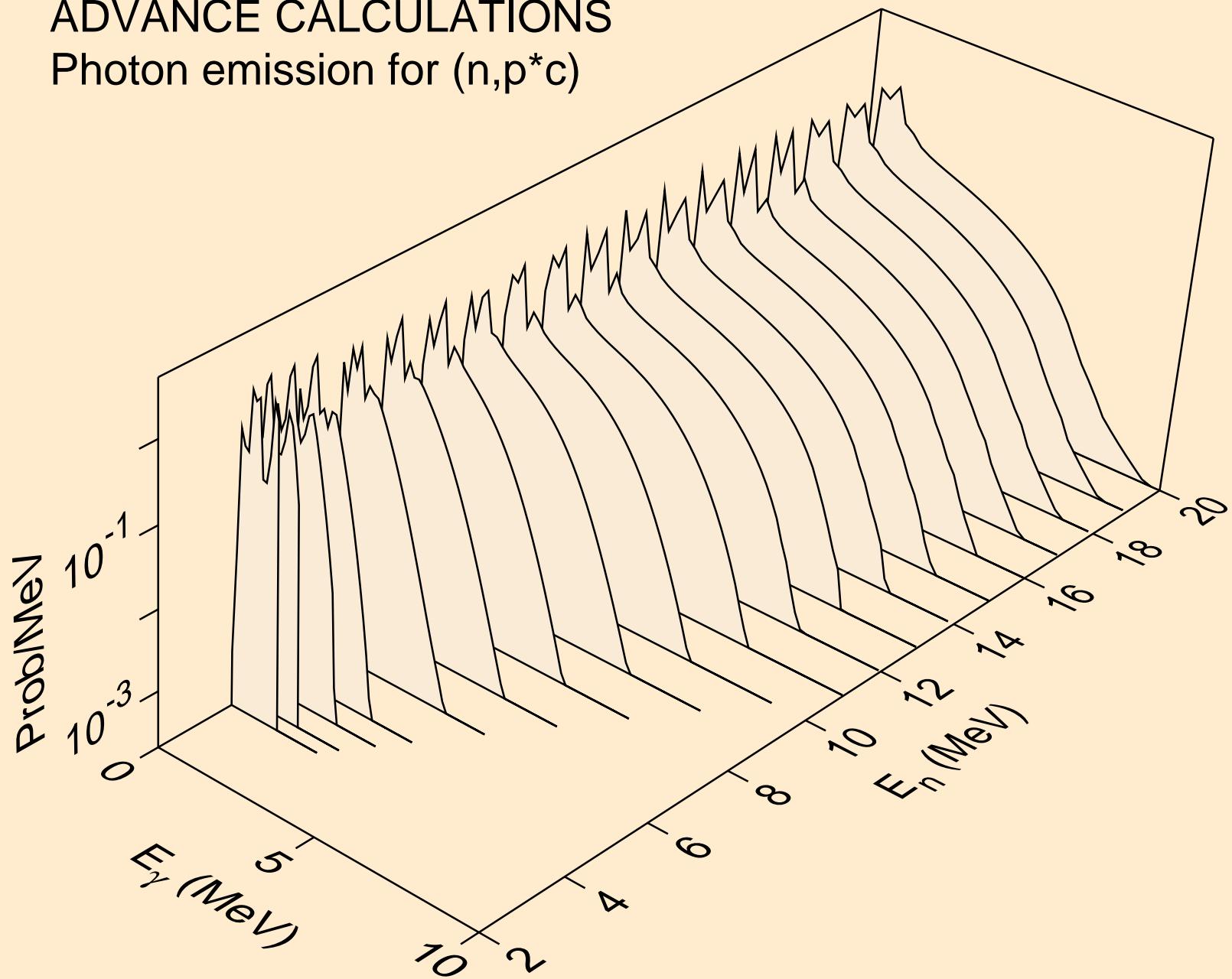
# ADVANCE CALCULATIONS

## Photon emission for (n,gma)



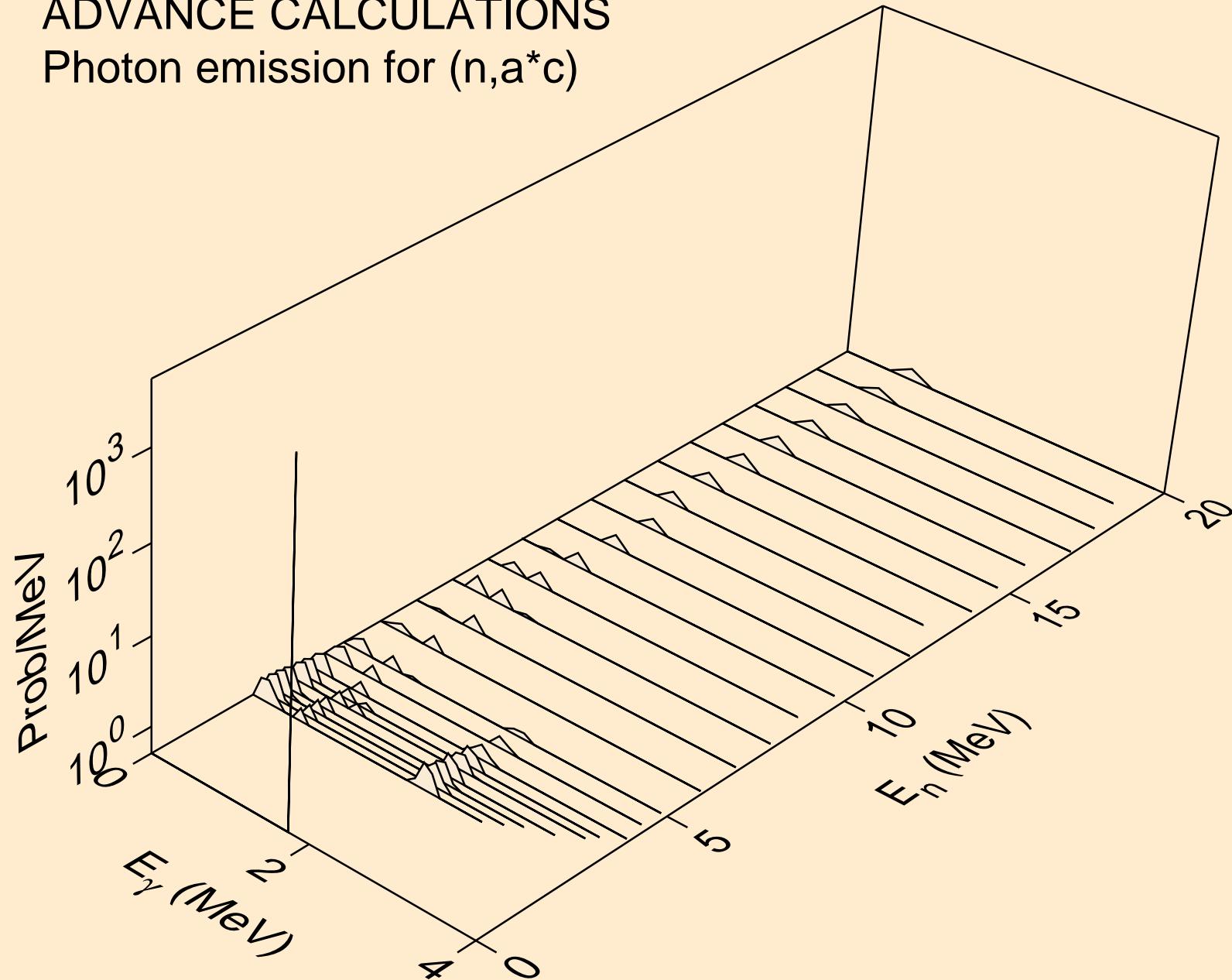
# ADVANCE CALCULATIONS

## Photon emission for $(n, p^* c)$



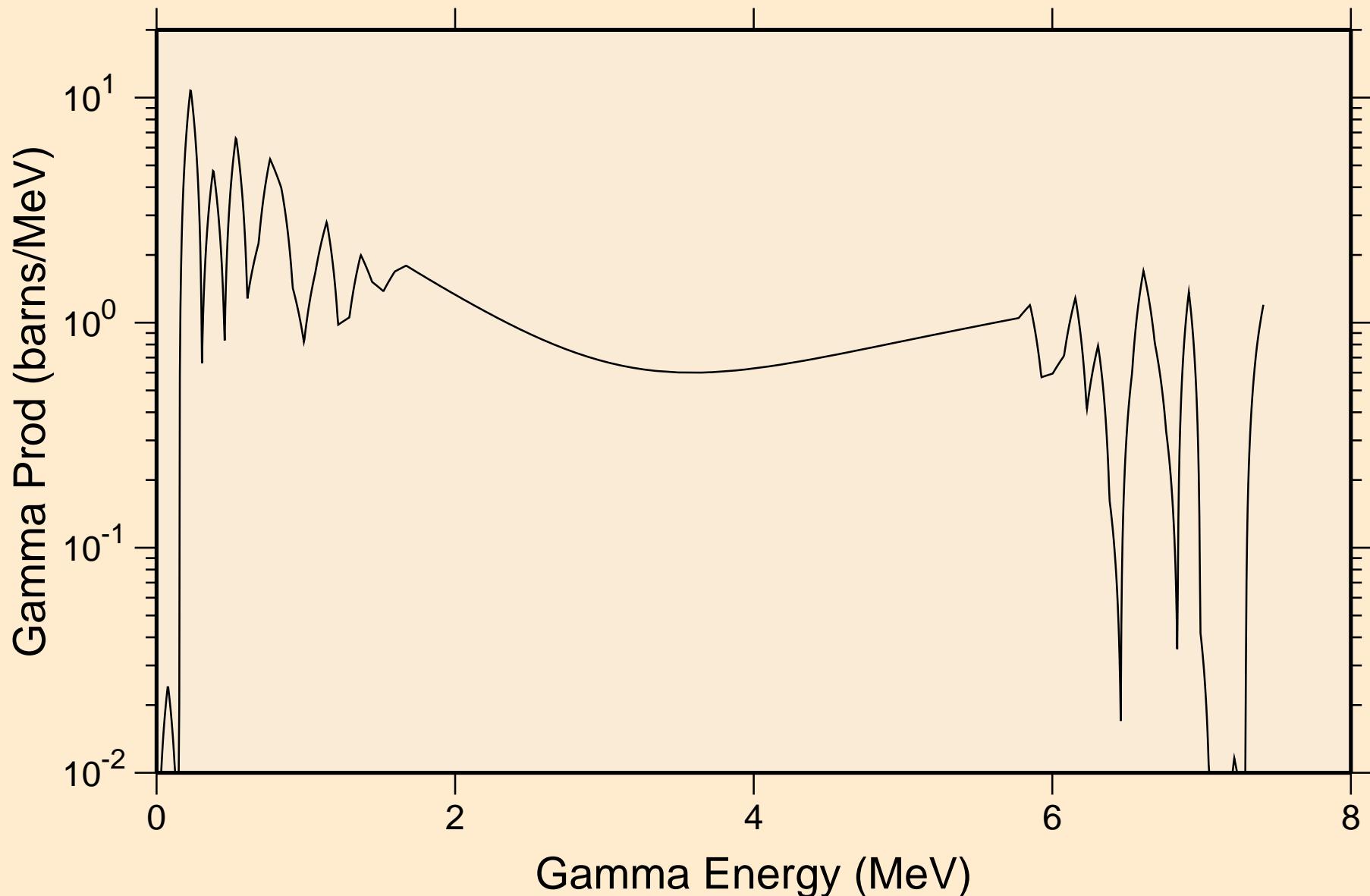
# ADVANCE CALCULATIONS

## Photon emission for $(n, a^*c)$

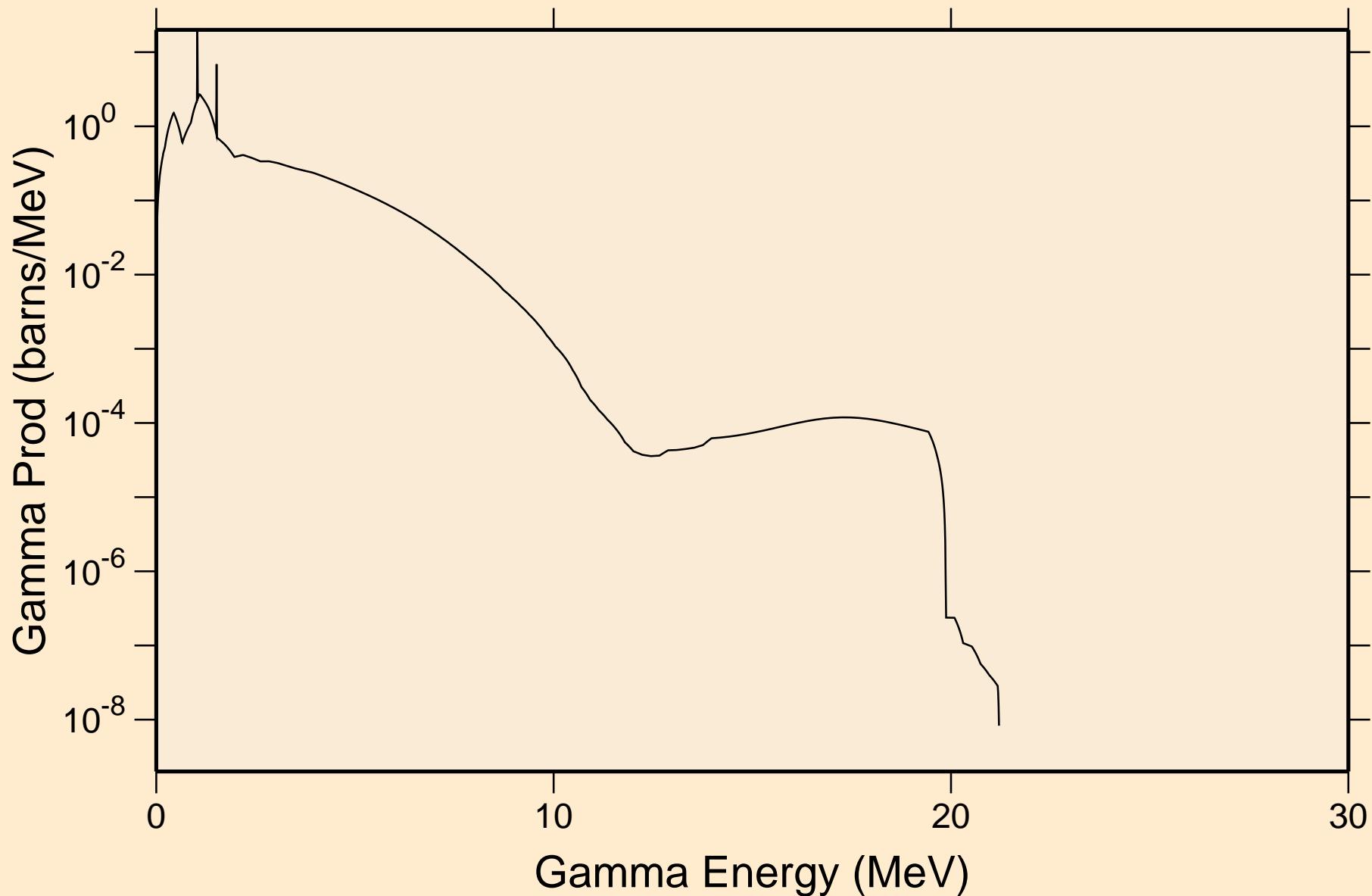


# ADVANCE CALCULATIONS

## thermal capture photon spectrum

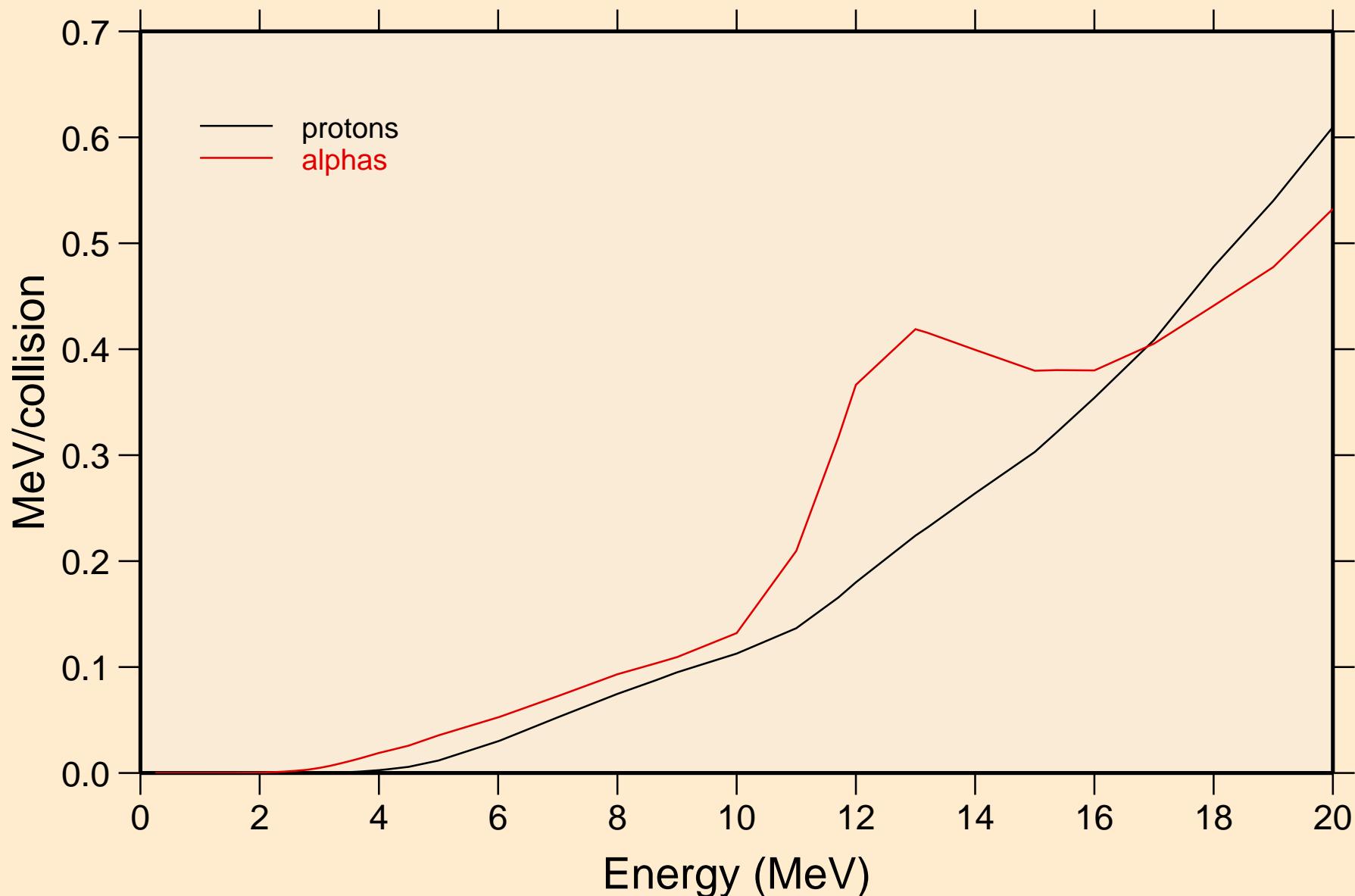


ADVANCE CALCULATIONS  
14 MeV photon spectrum



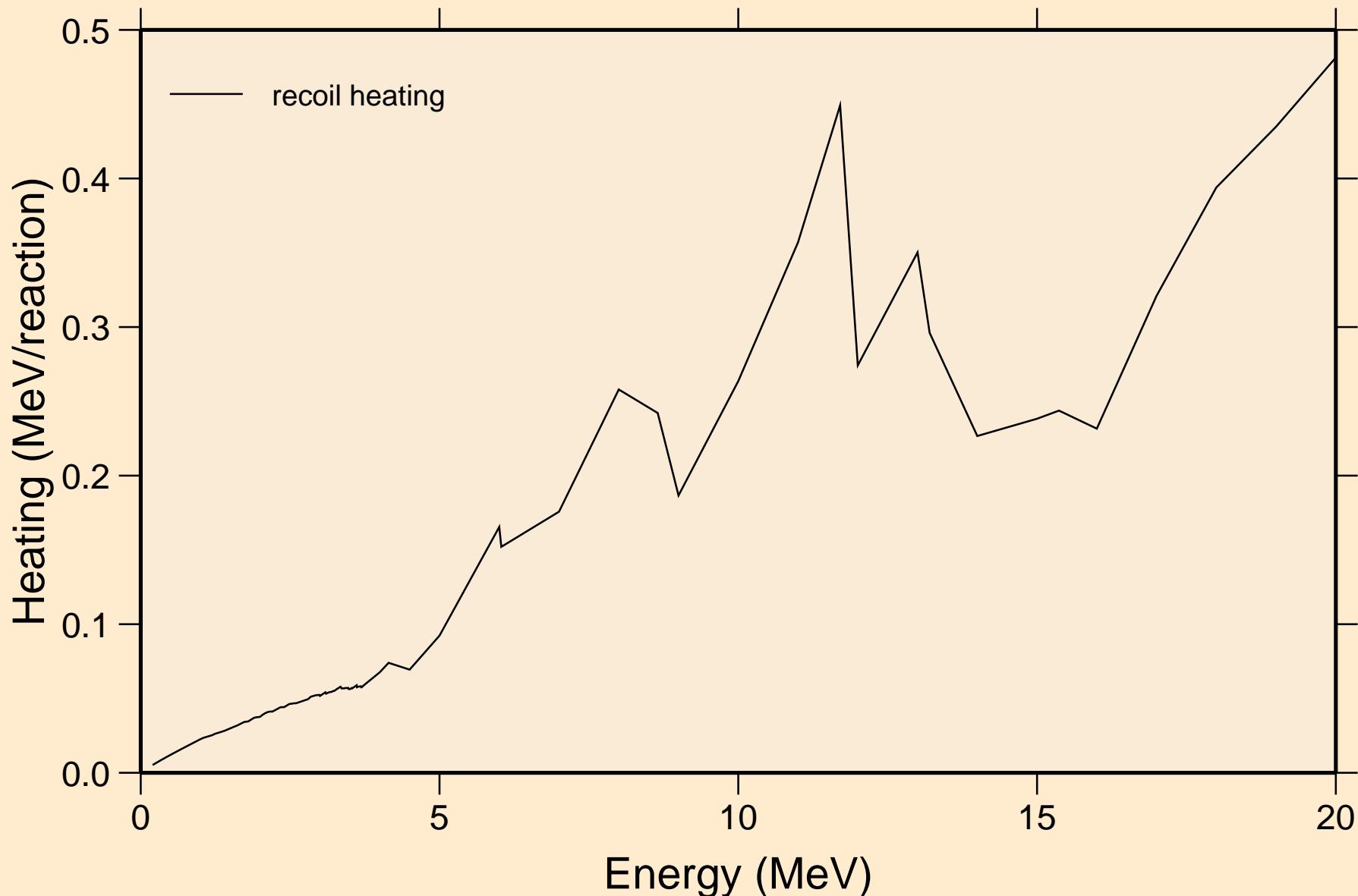
# ADVANCE CALCULATIONS

## Particle heating contributions



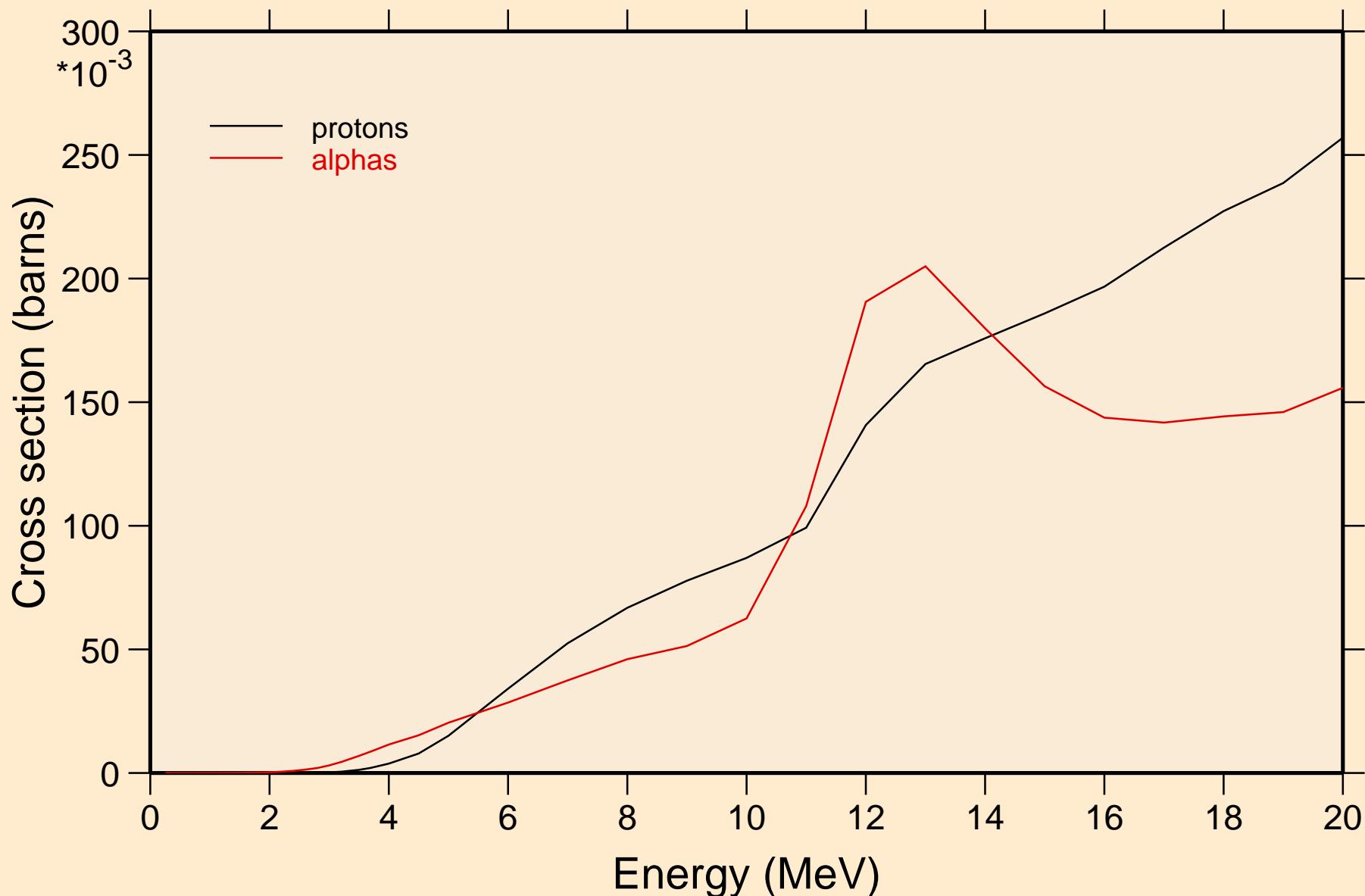
# ADVANCE CALCULATIONS

## Recoil Heating



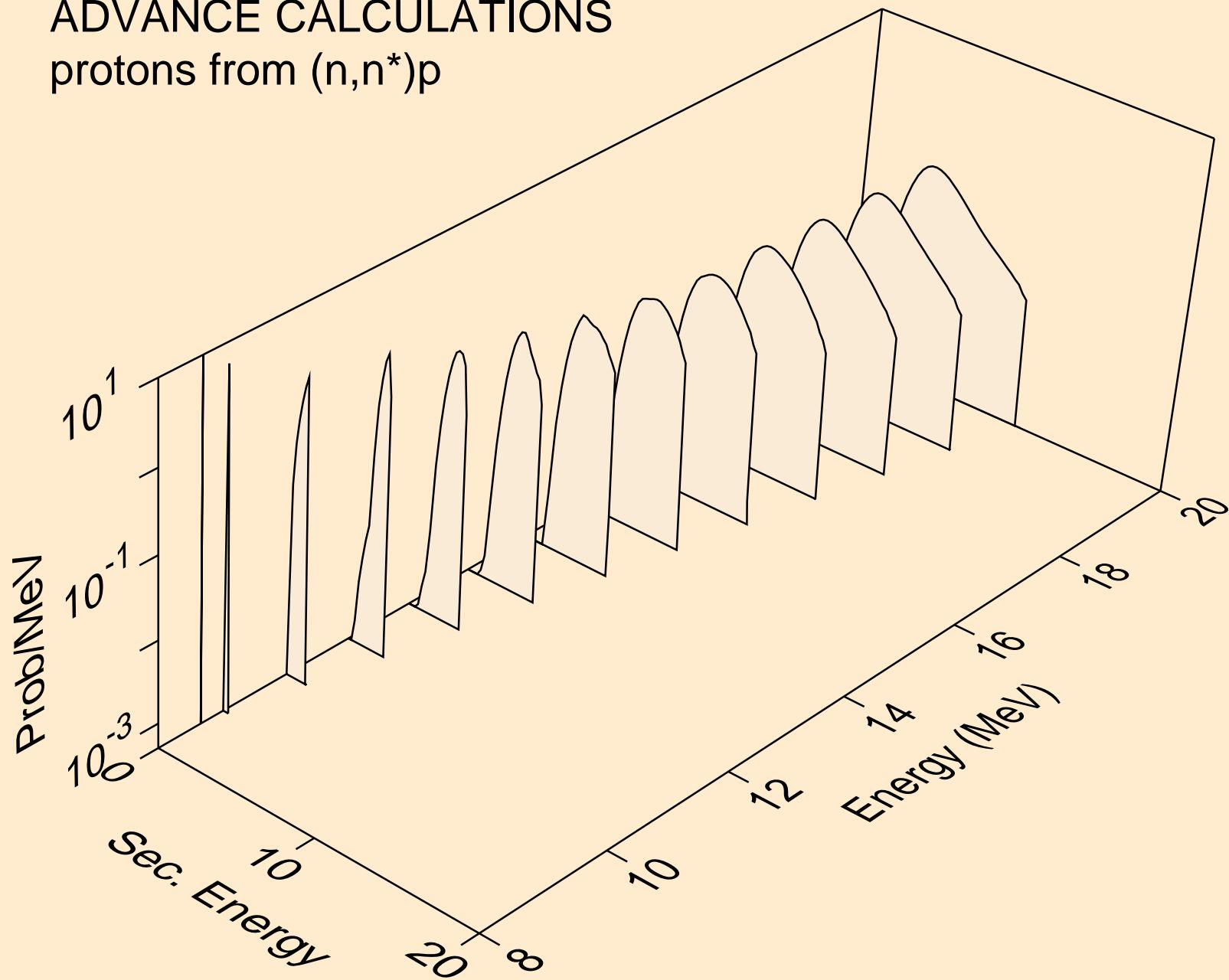
# ADVANCE CALCULATIONS

## Particle production cross sections



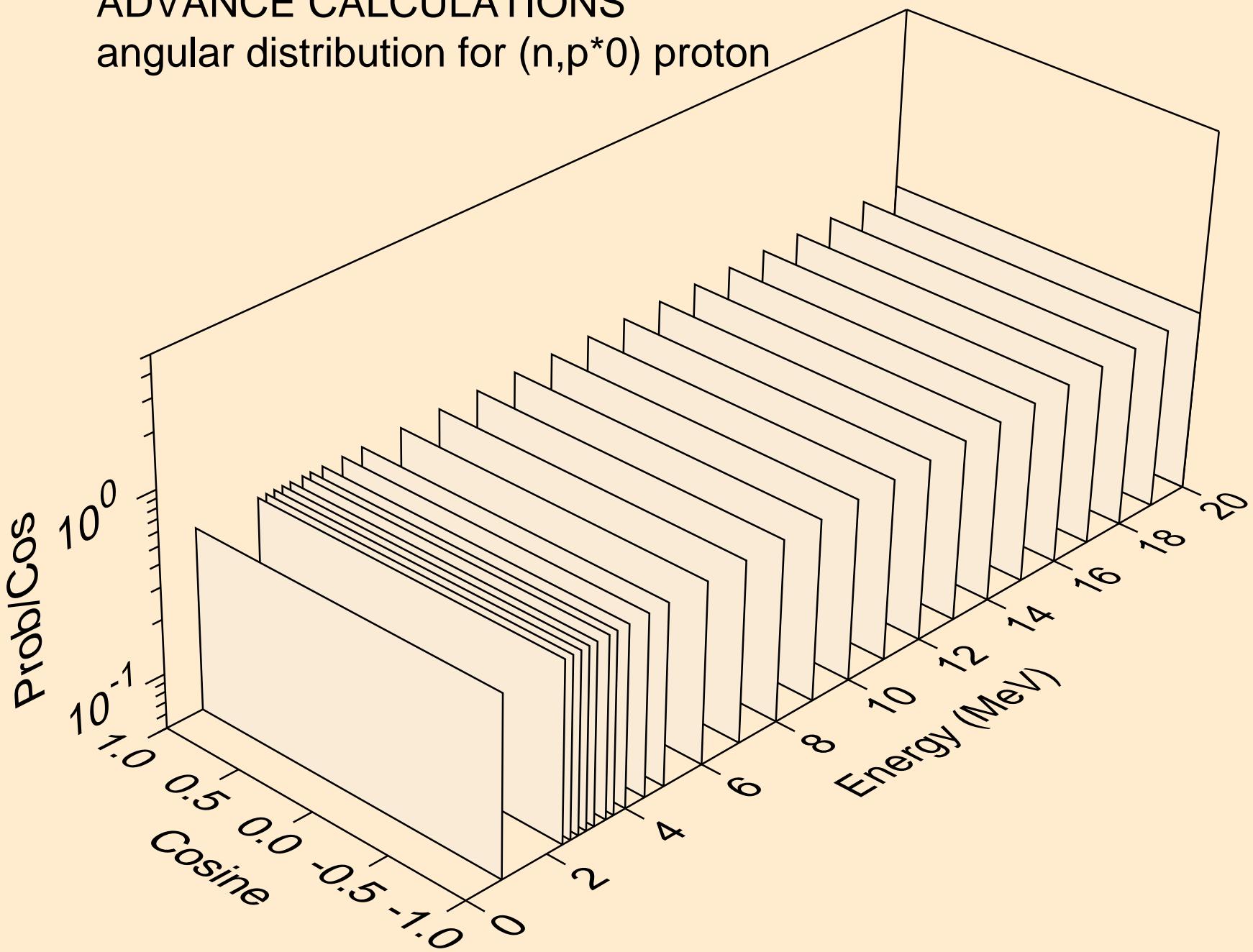
# ADVANCE CALCULATIONS

protons from  $(n,n^*)p$



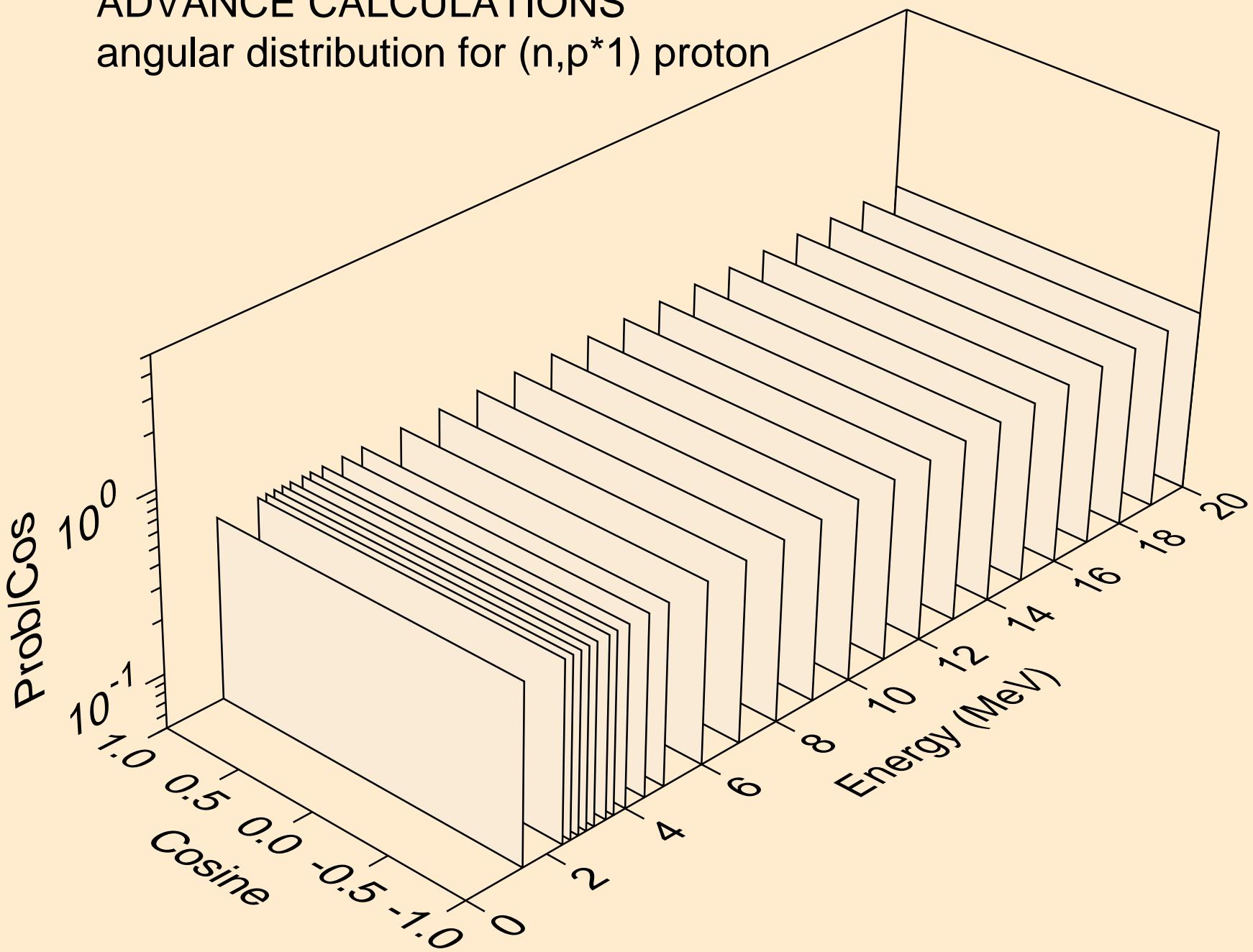
# ADVANCE CALCULATIONS

## angular distribution for $(n,p^*0)$ proton



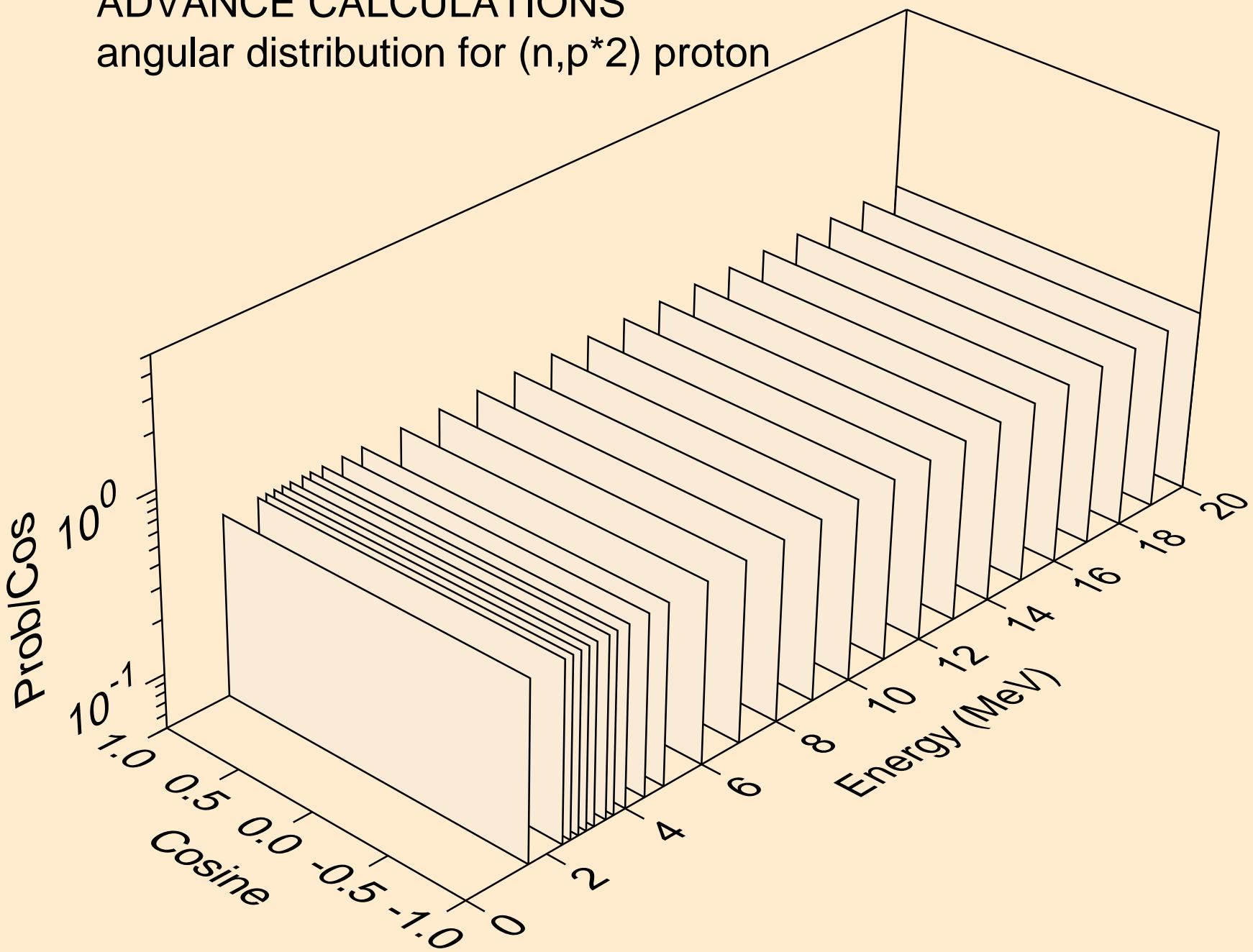
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*1$ ) proton



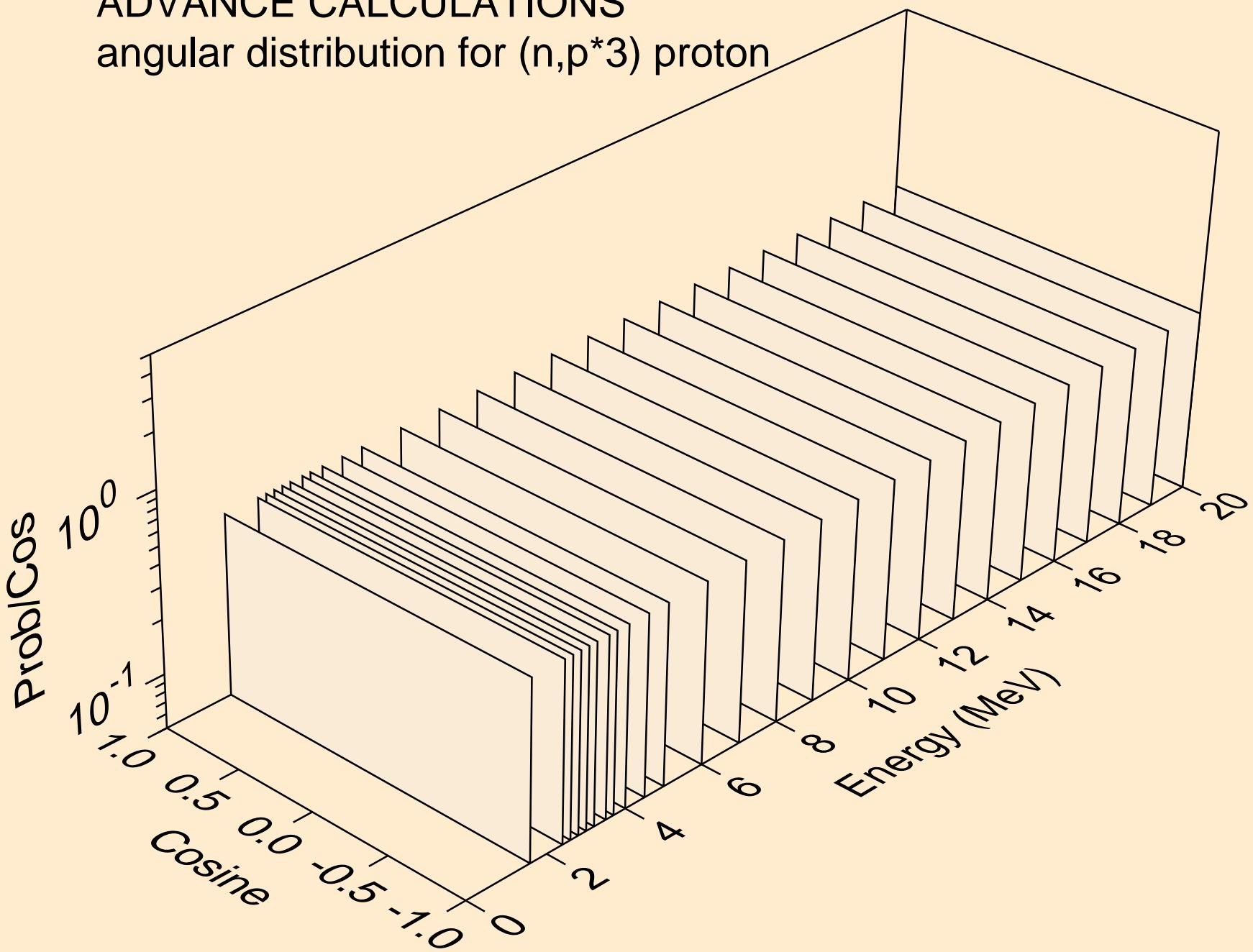
# ADVANCE CALCULATIONS

## angular distribution for $(n,p^*2)$ proton



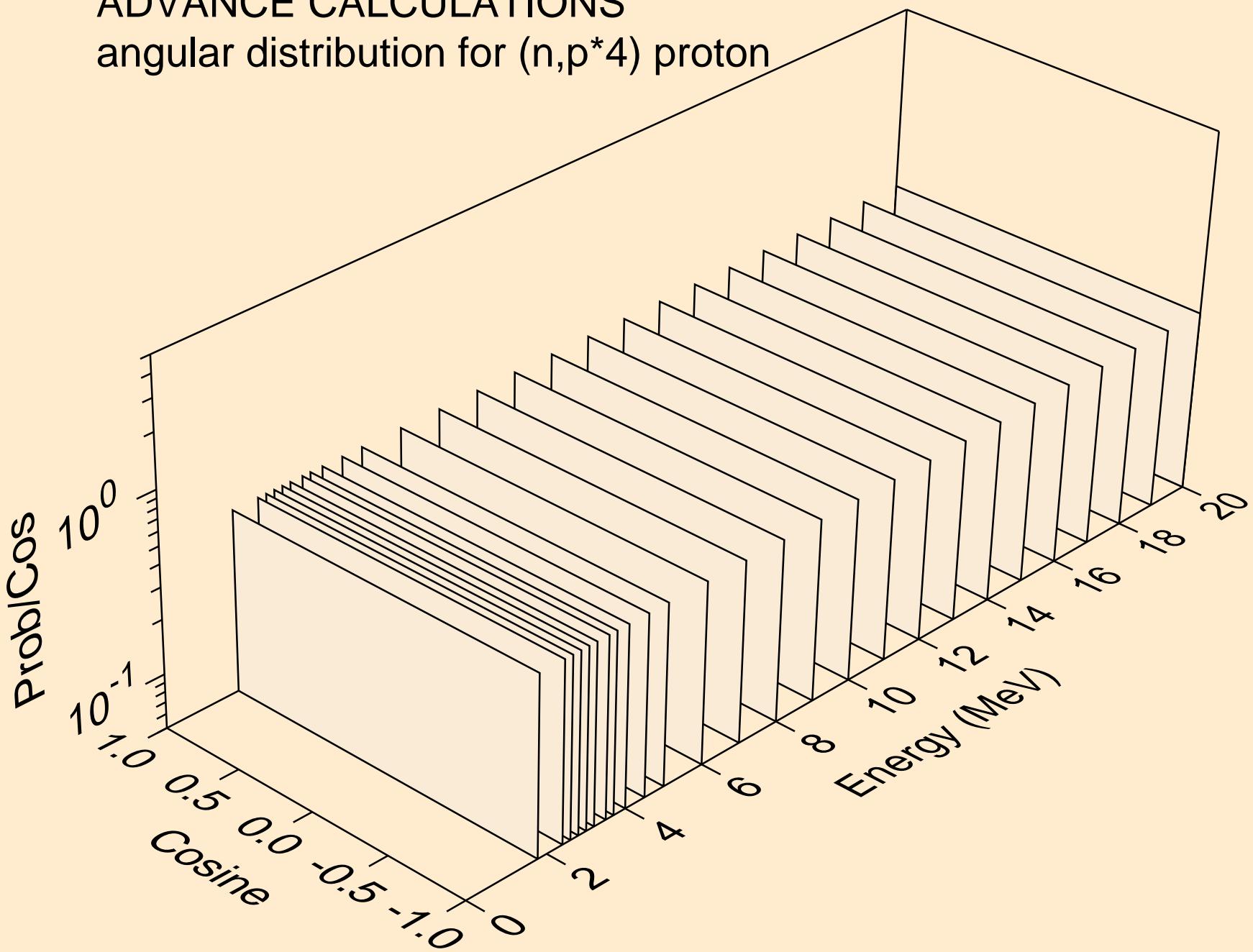
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*3$ ) proton



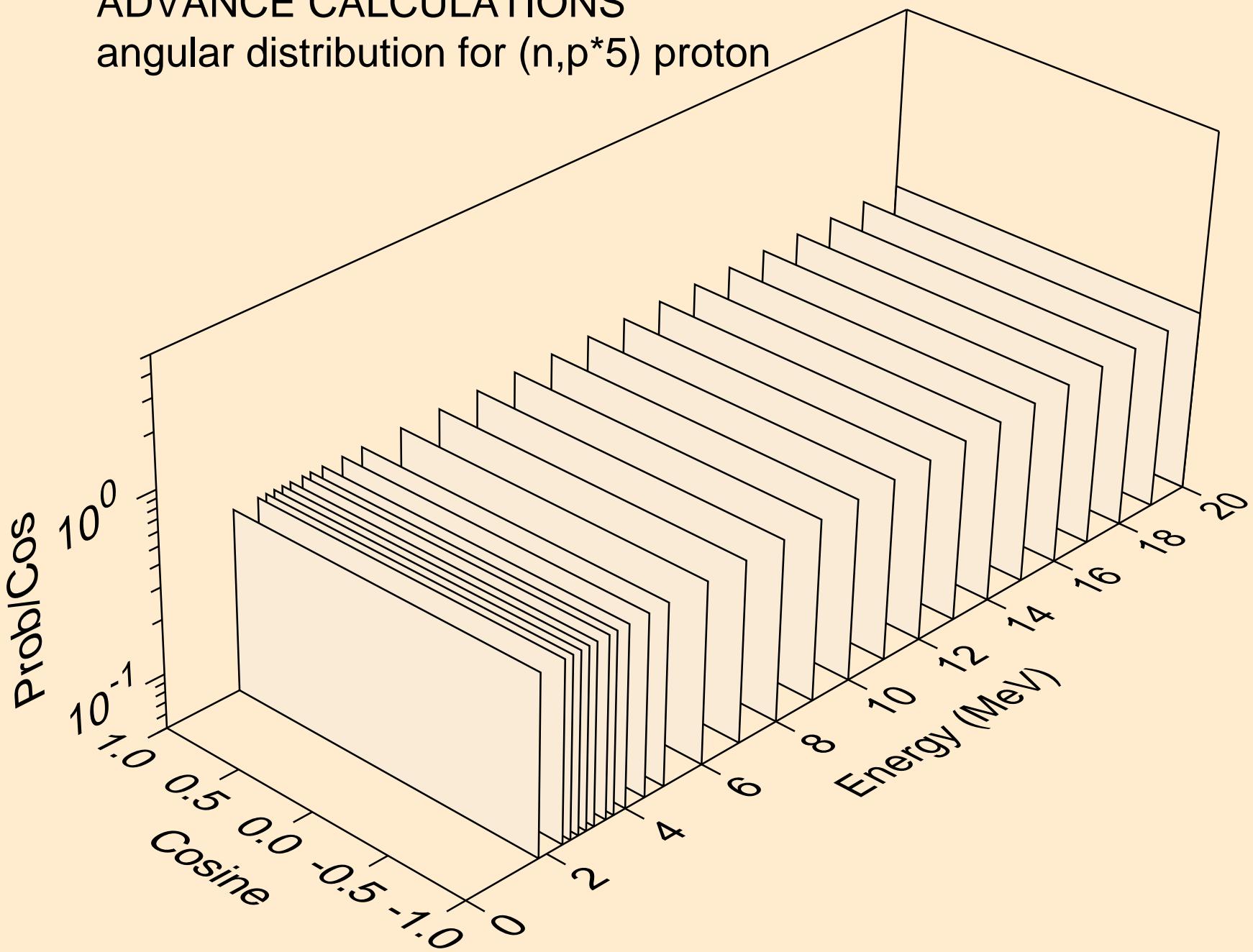
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*4$ ) proton



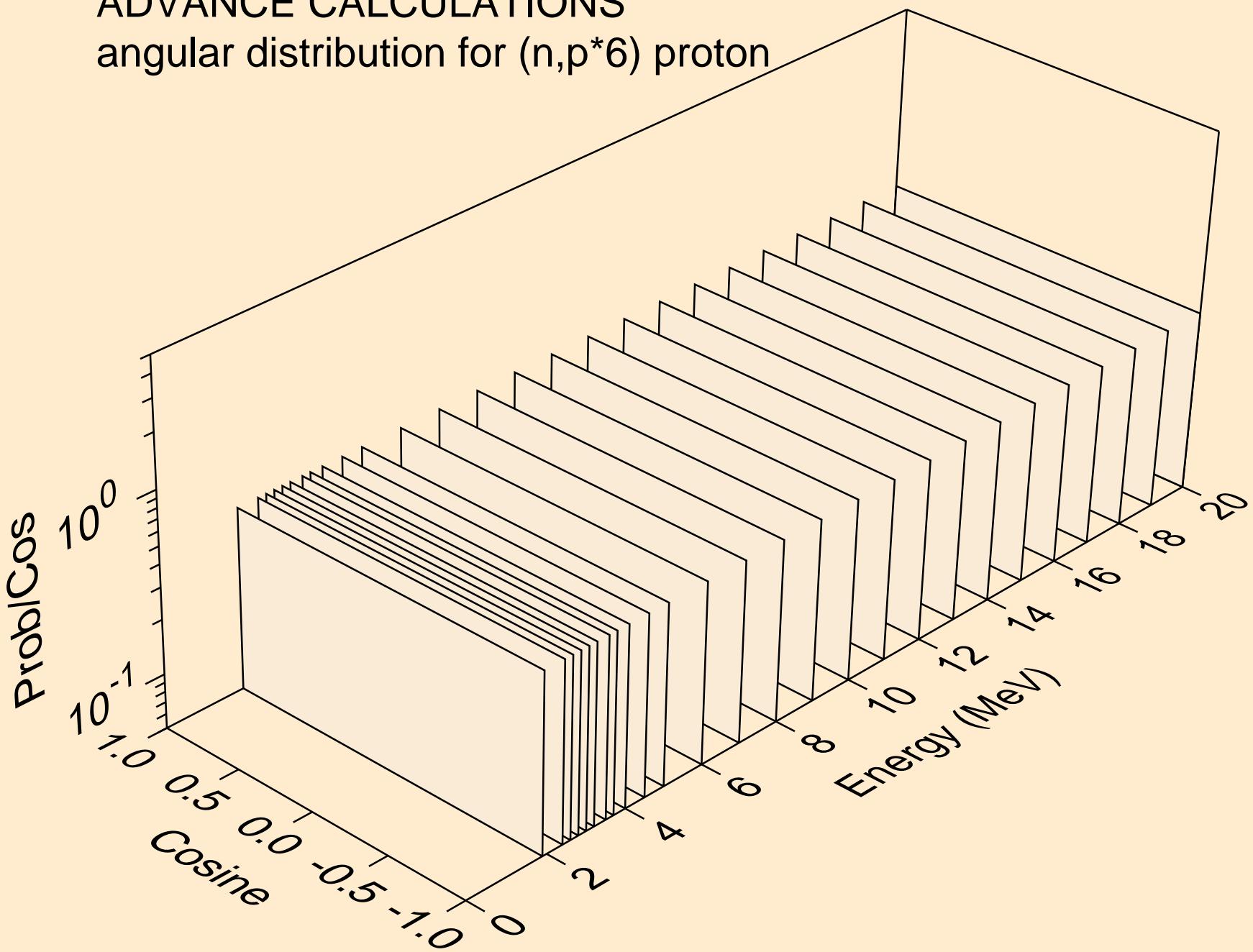
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*5$ ) proton



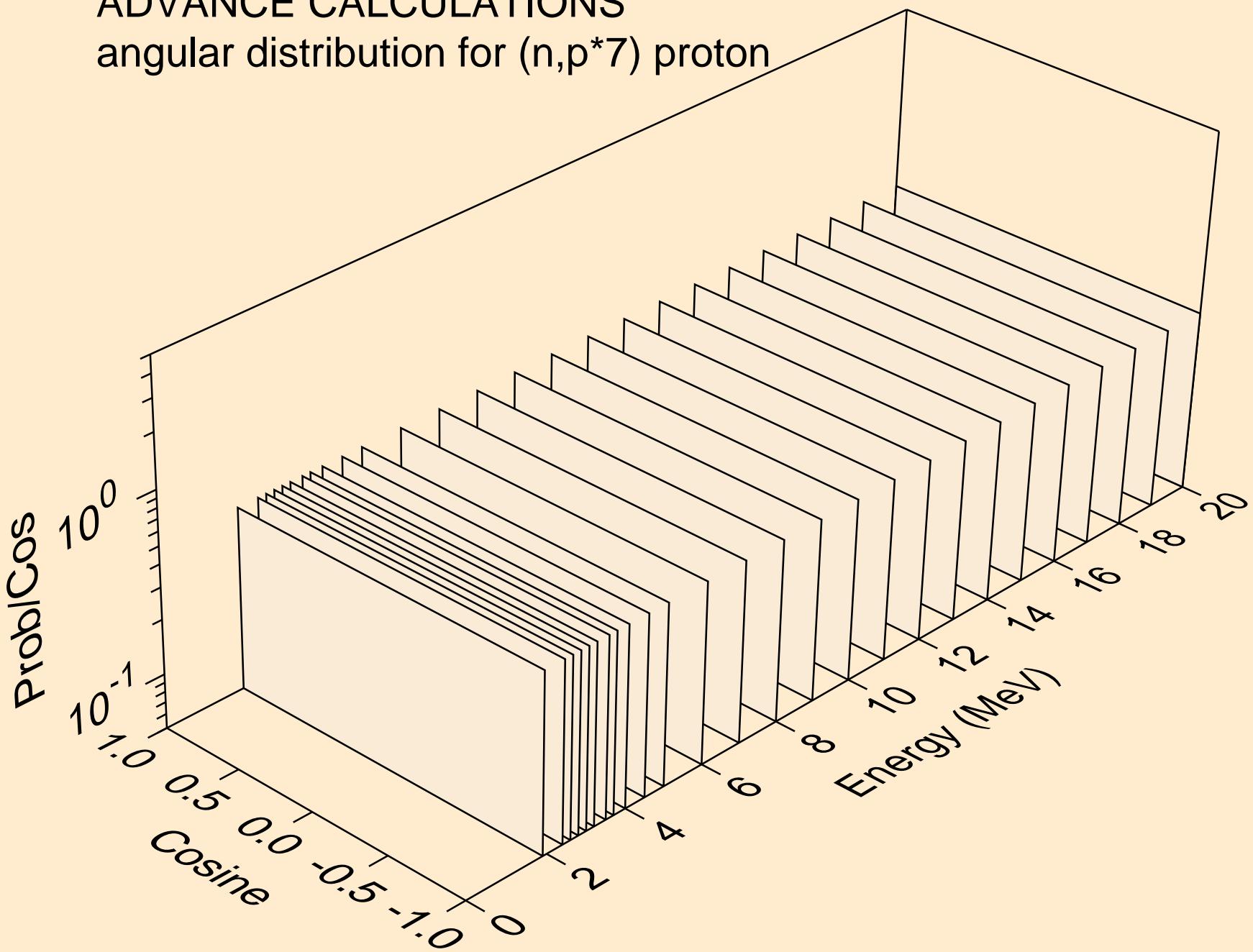
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*6$ ) proton



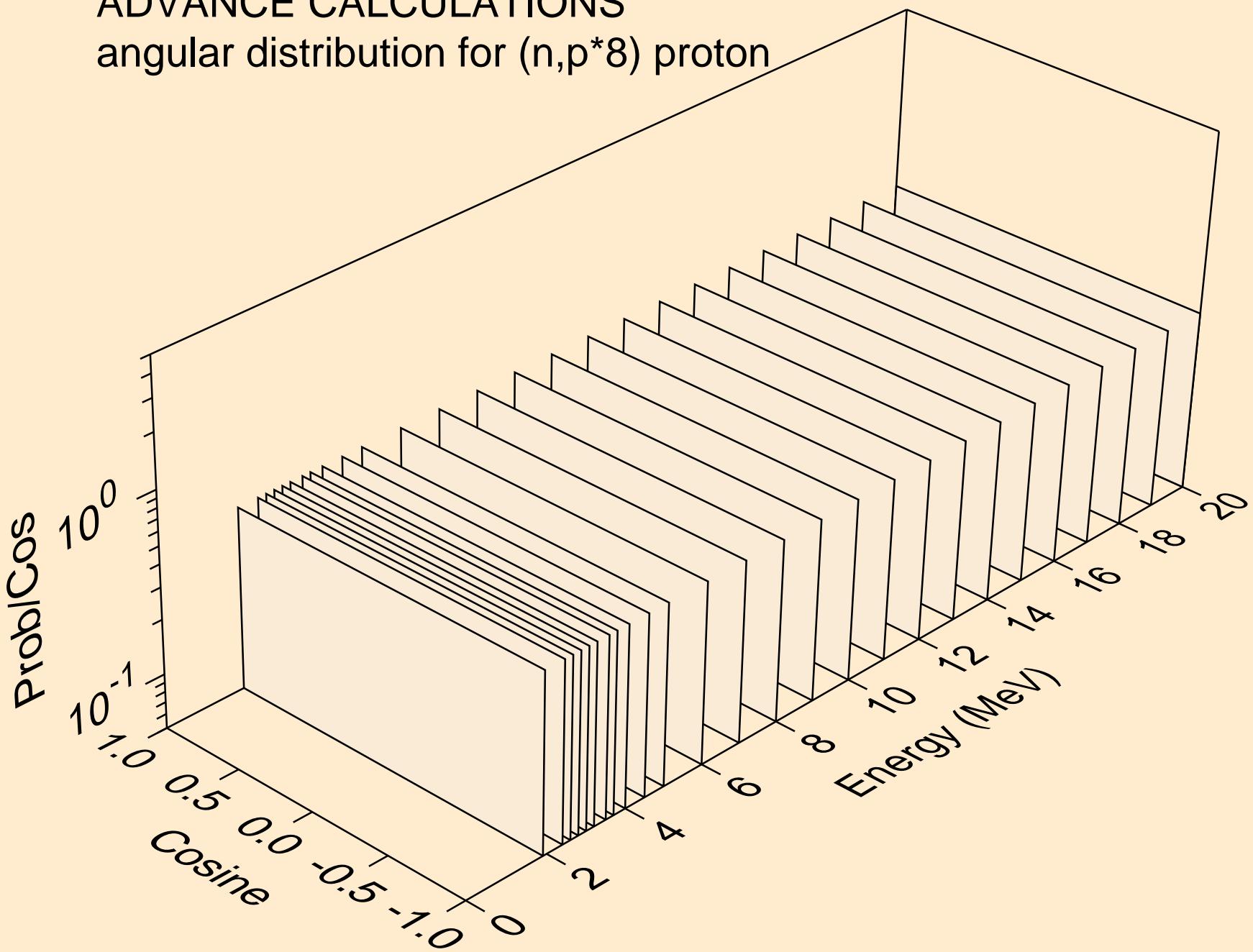
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*7$ ) proton



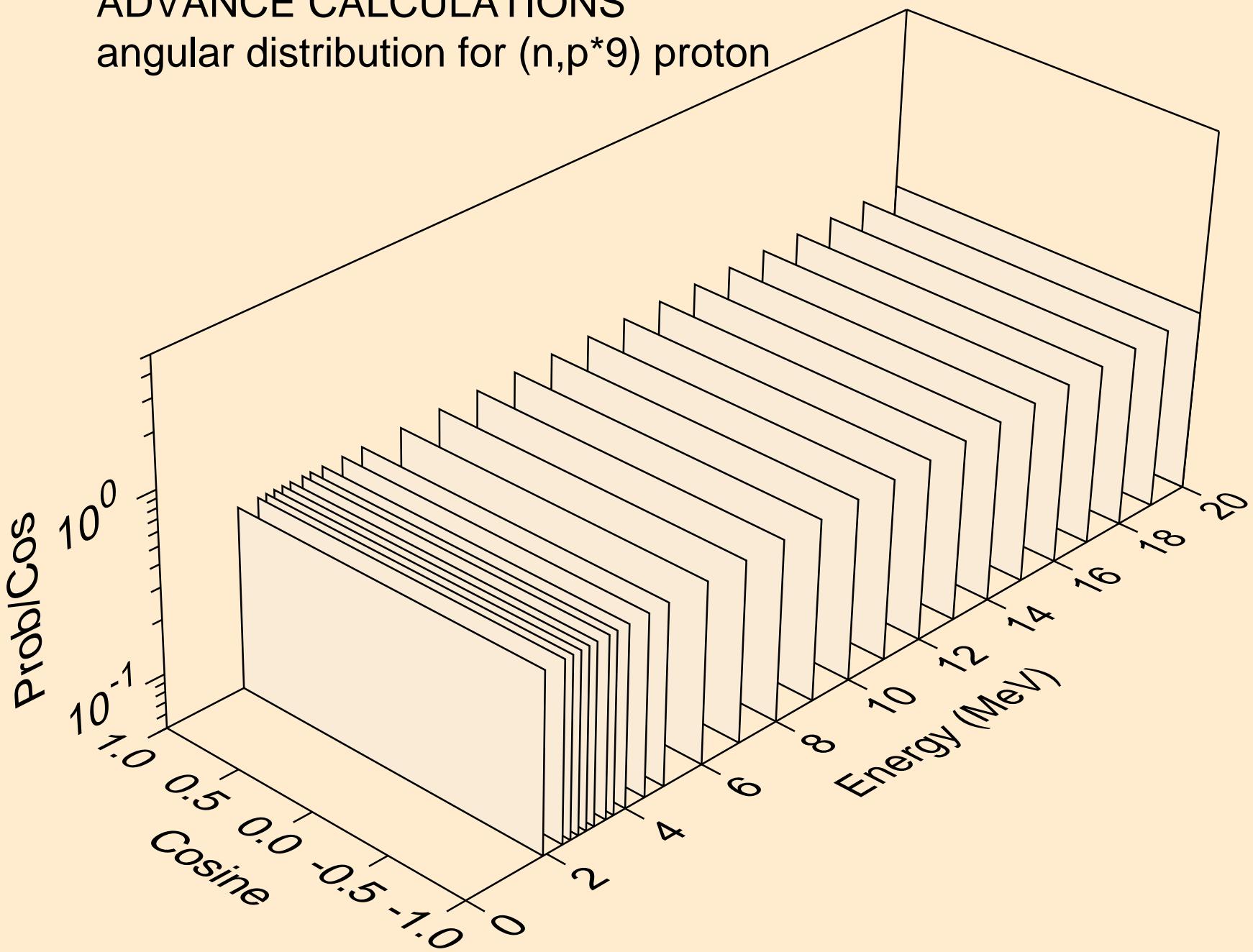
# ADVANCE CALCULATIONS

## angular distribution for (n,p\*8) proton



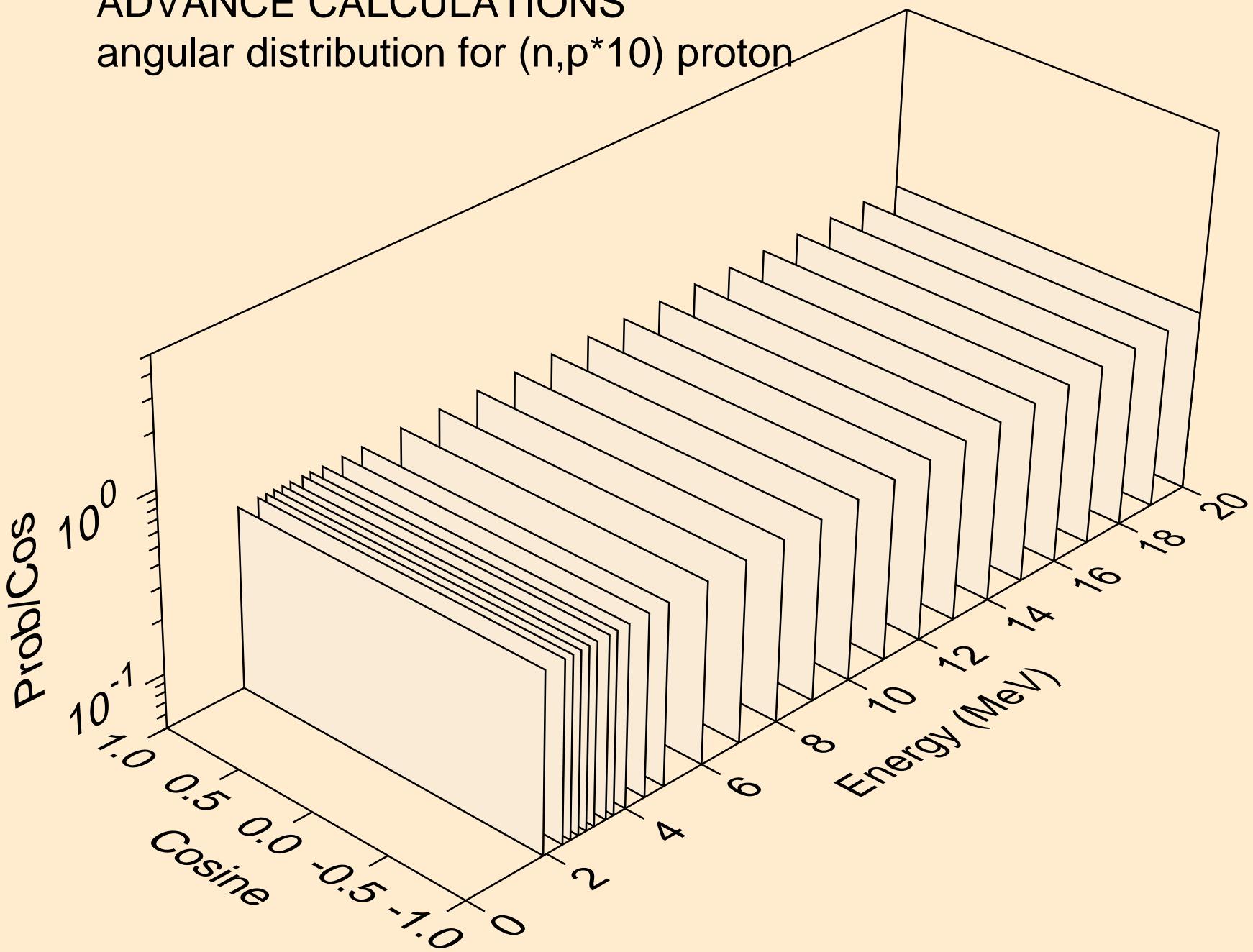
# ADVANCE CALCULATIONS

## angular distribution for (n,p\*9) proton



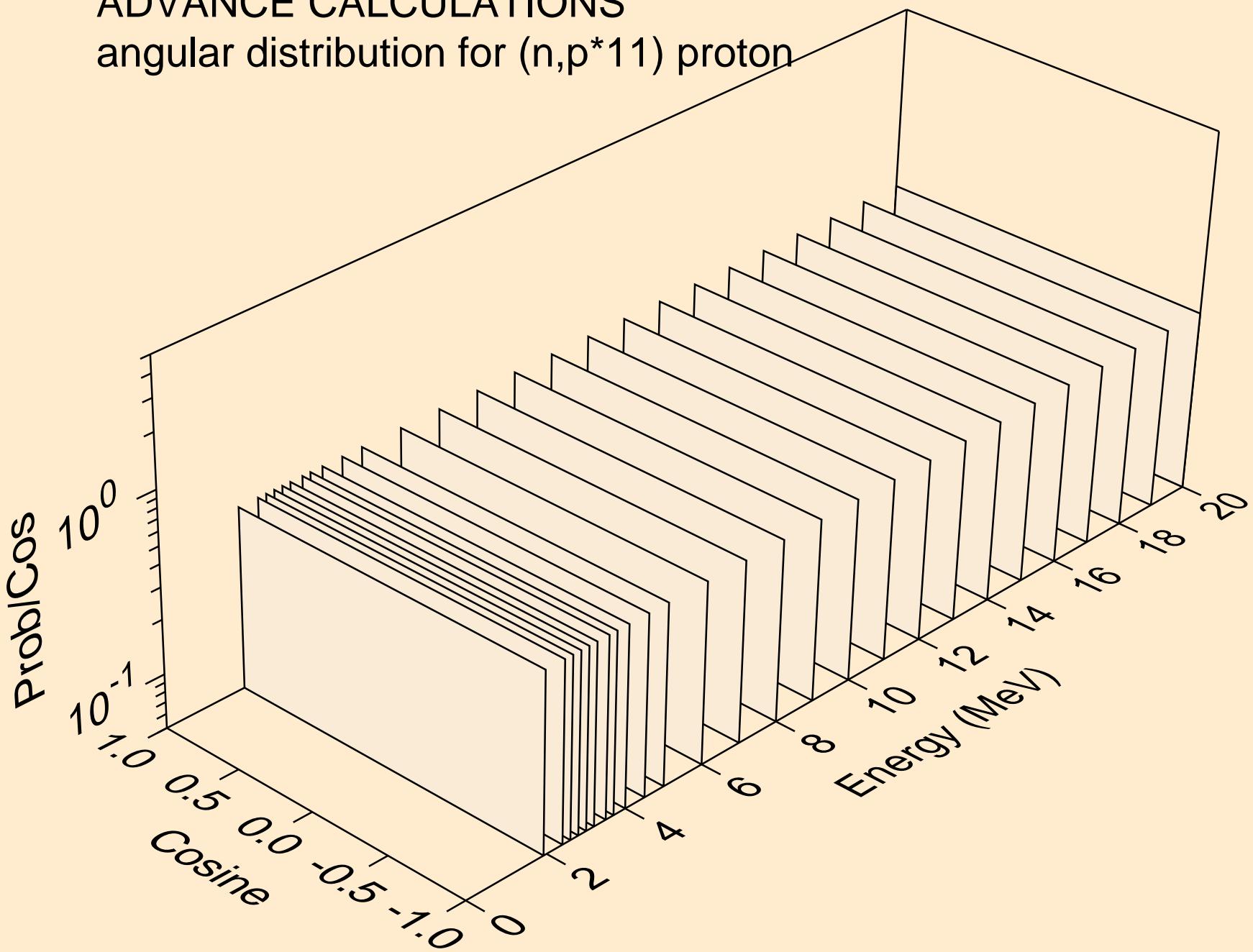
# ADVANCE CALCULATIONS

## angular distribution for (n,p\*10) proton



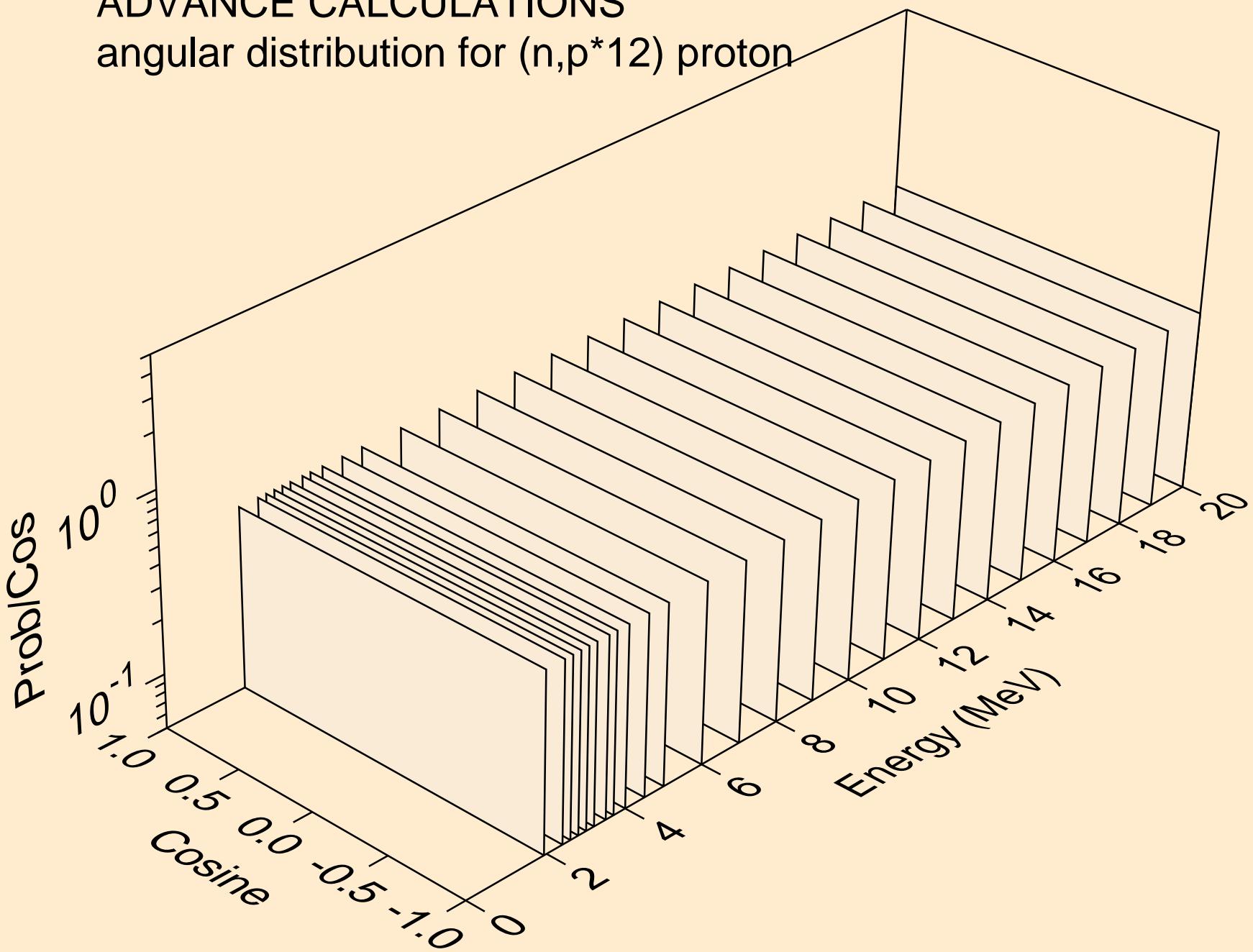
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*11$ ) proton



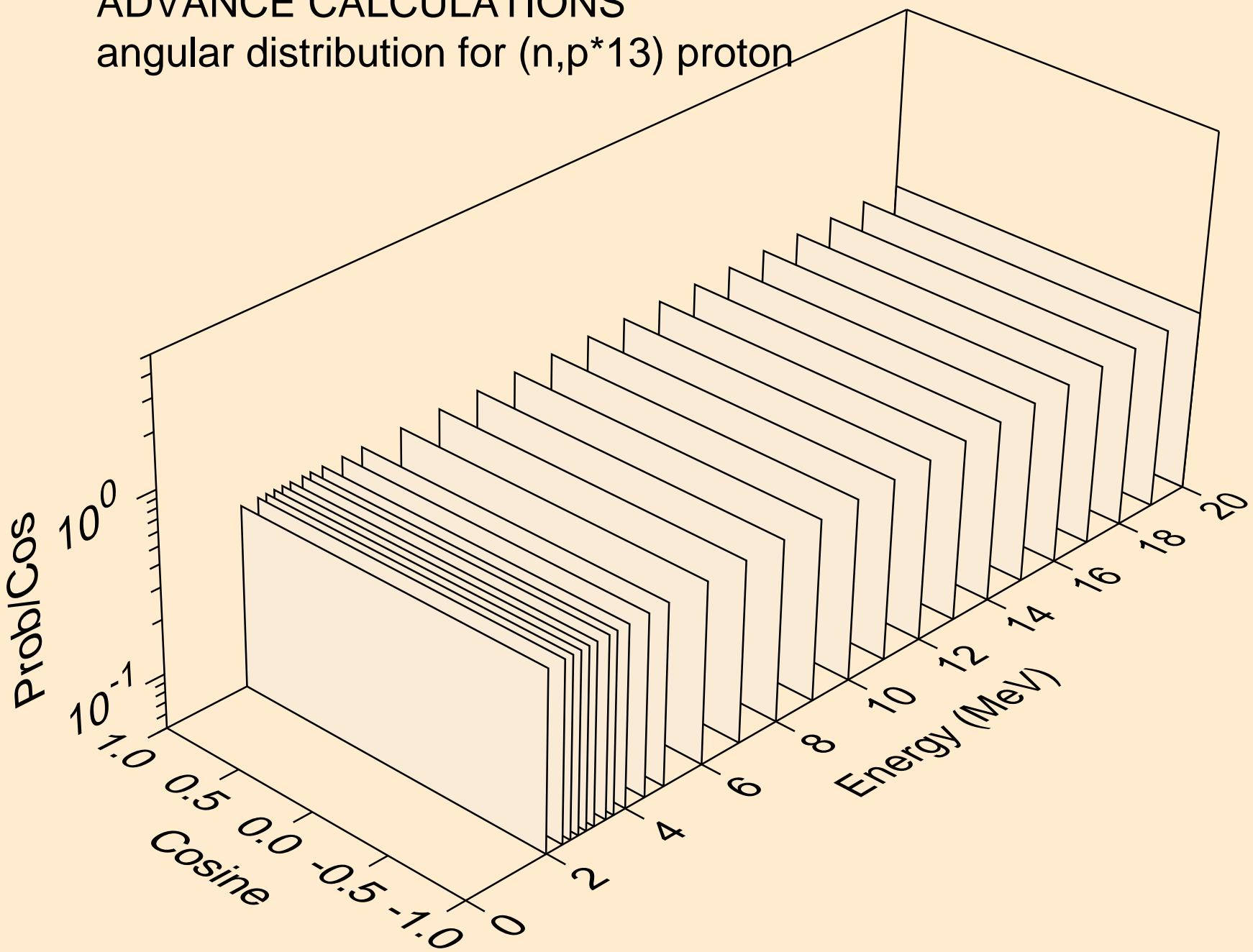
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*12$ ) proton



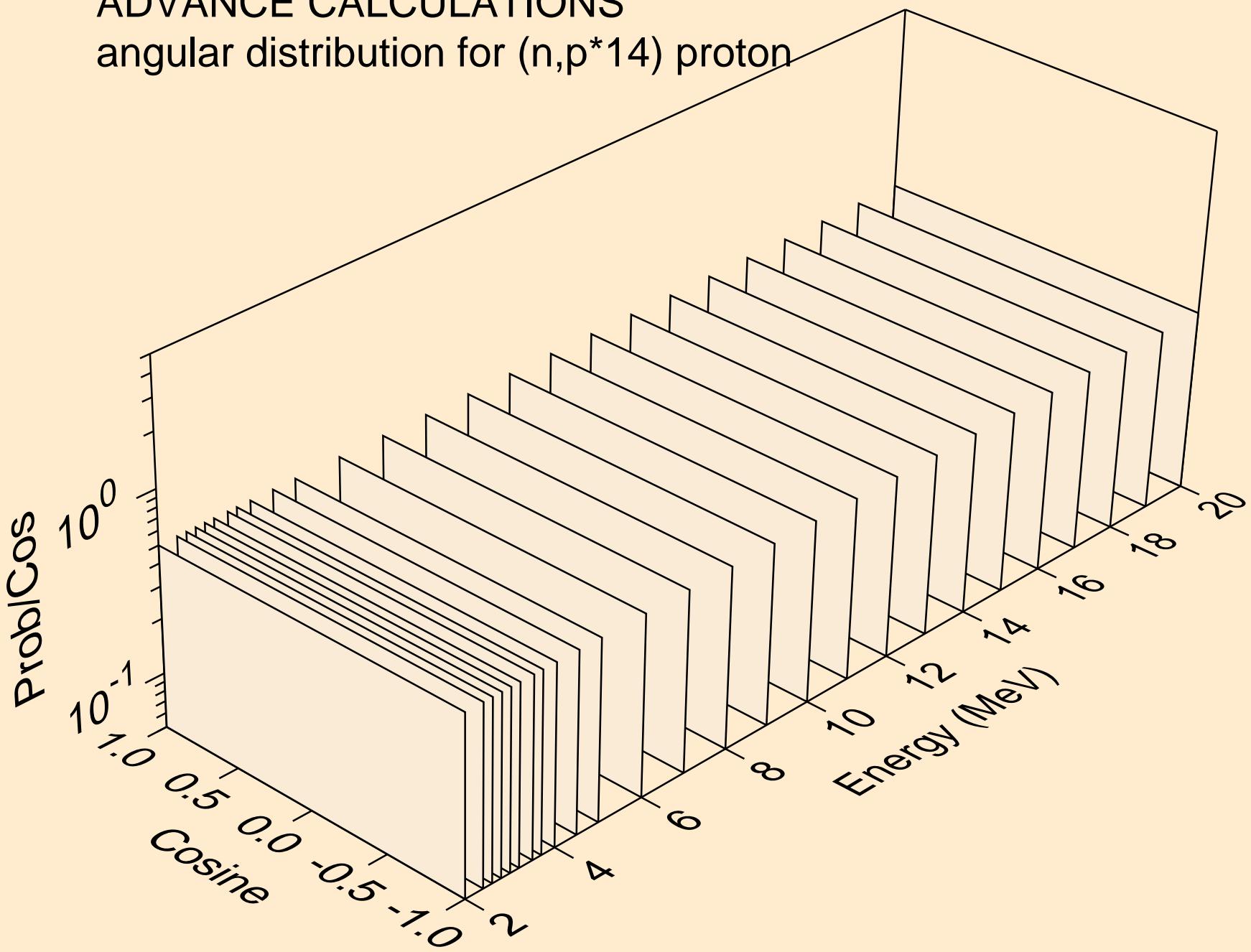
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*13$ ) proton



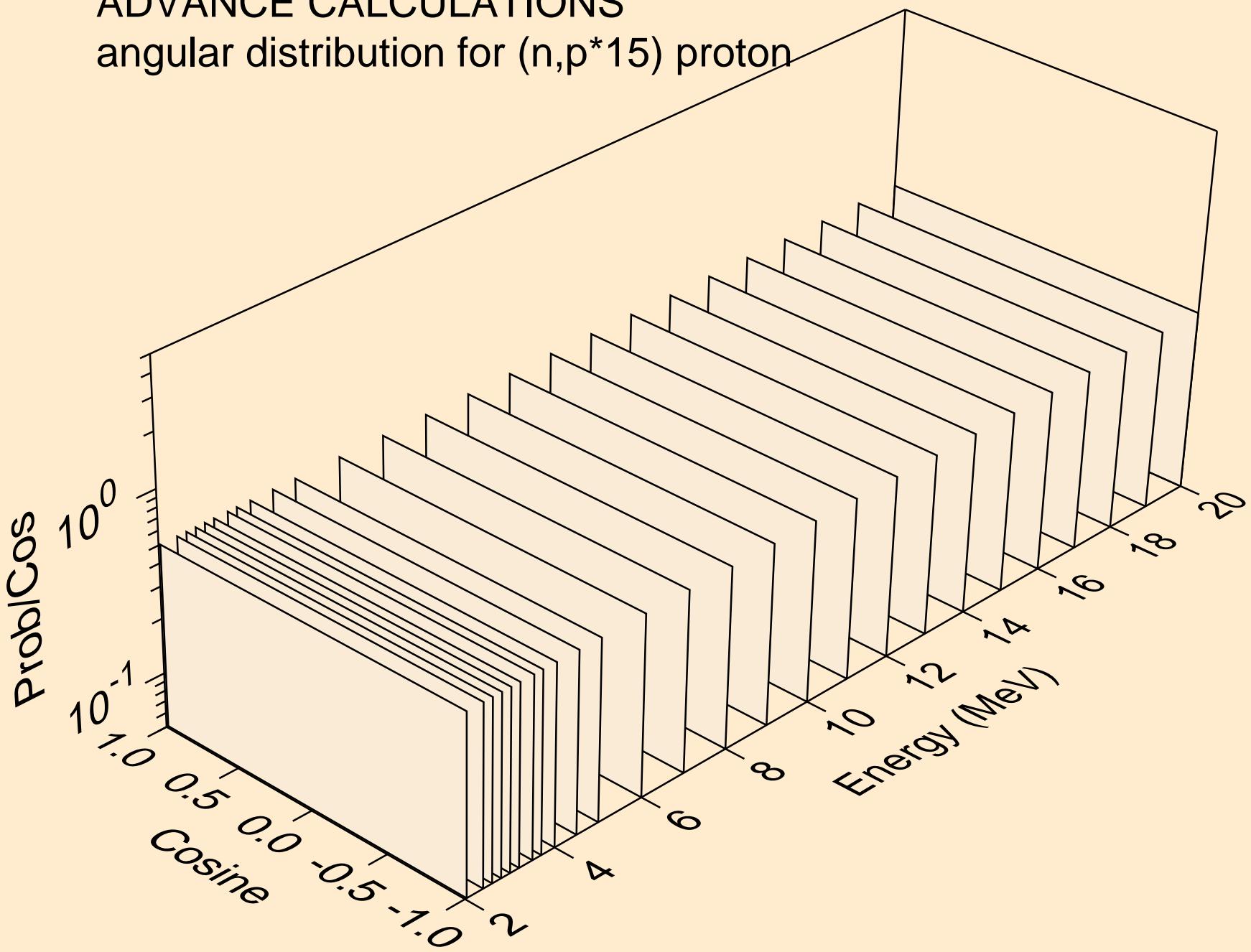
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*14$ ) proton



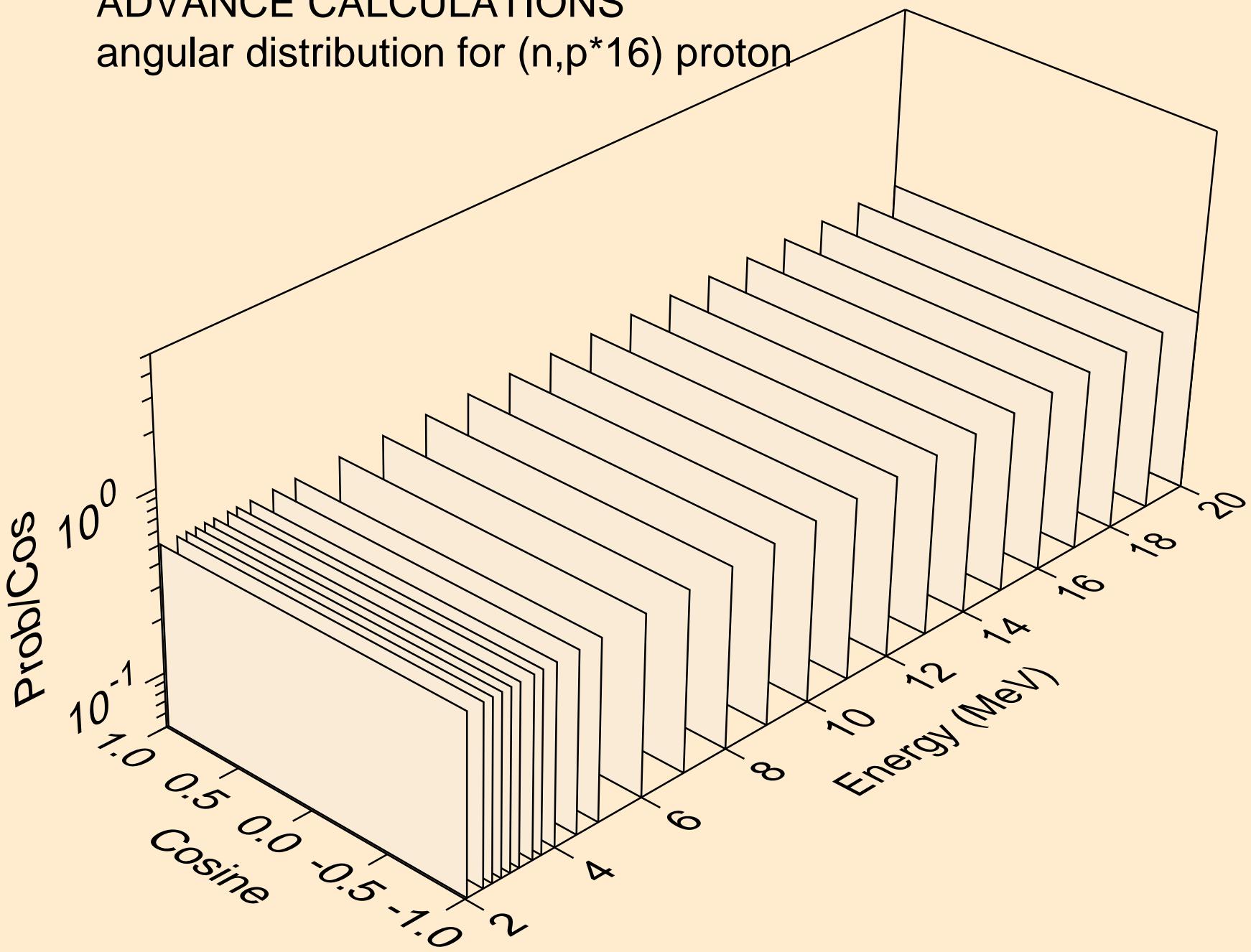
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*15$ ) proton



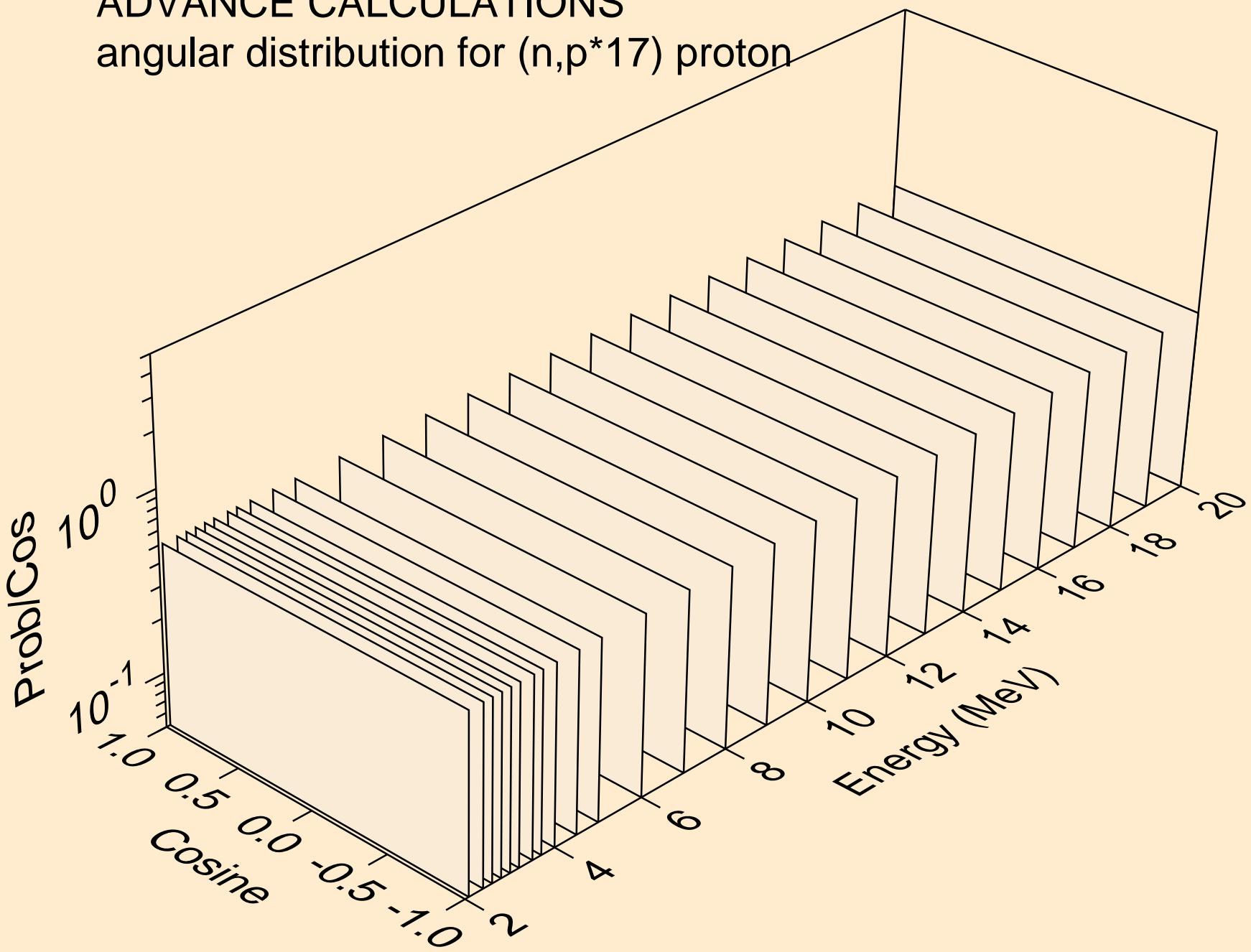
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*16$ ) proton



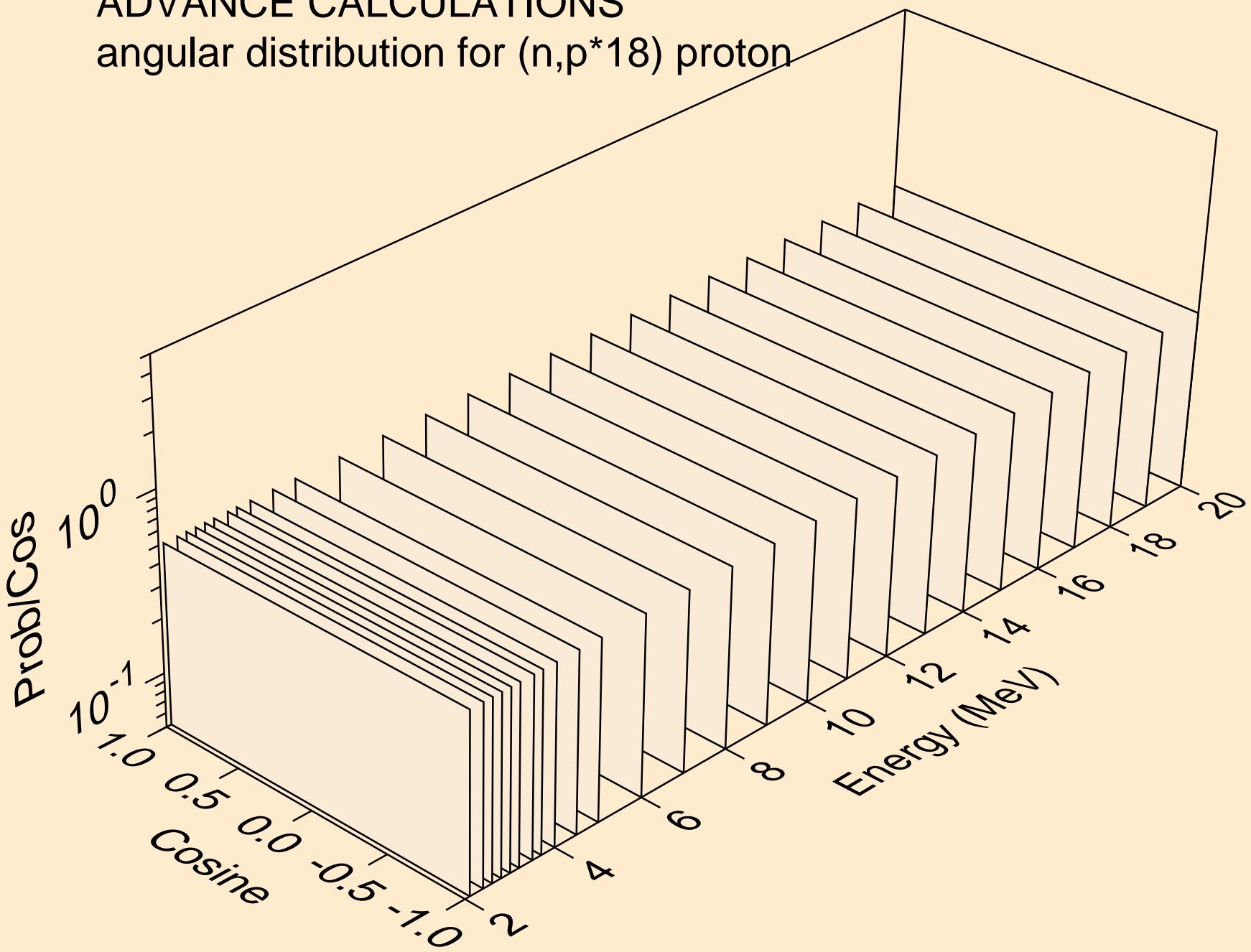
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*17$ ) proton



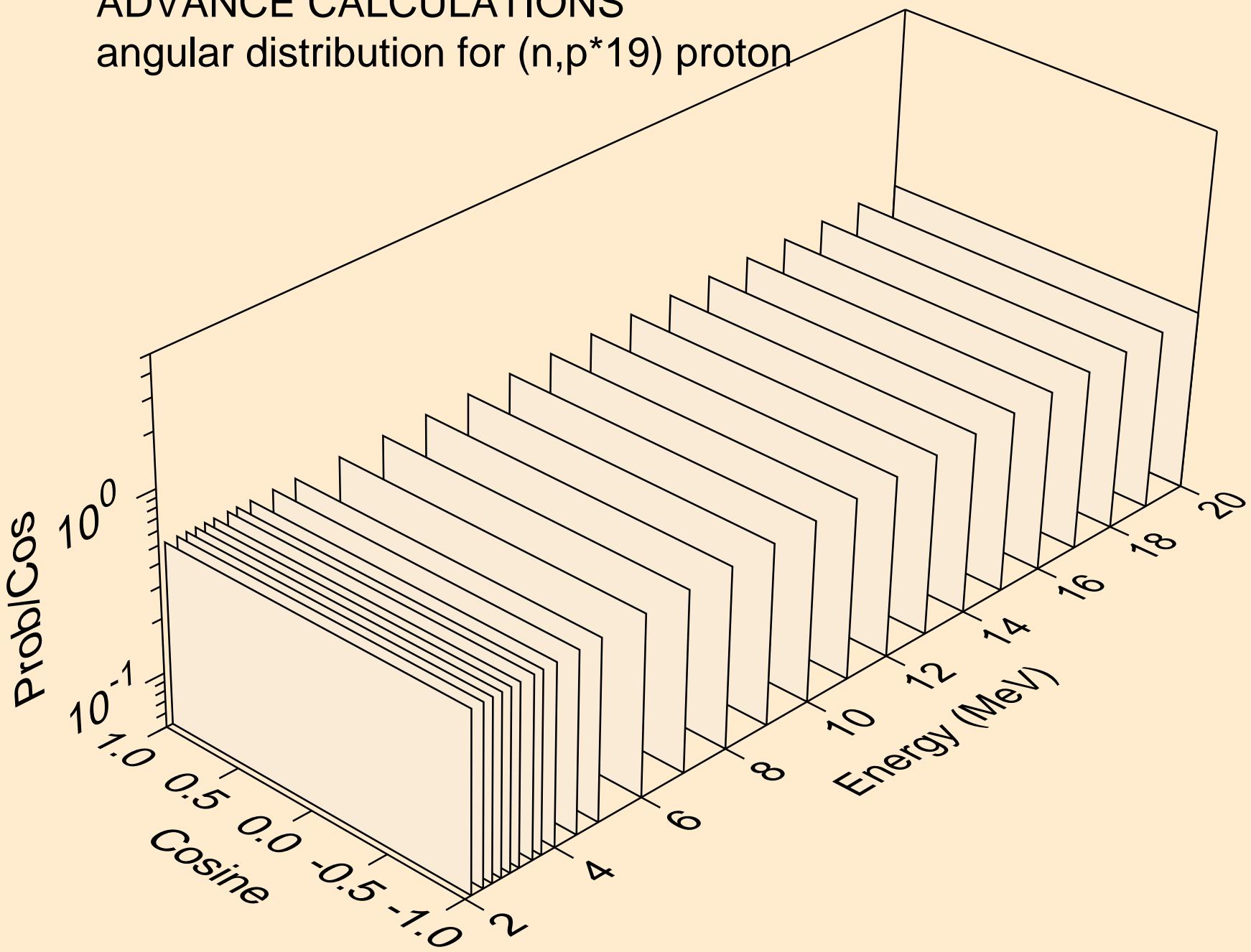
# ADVANCE CALCULATIONS

## angular distribution for (n,p\*18) proton



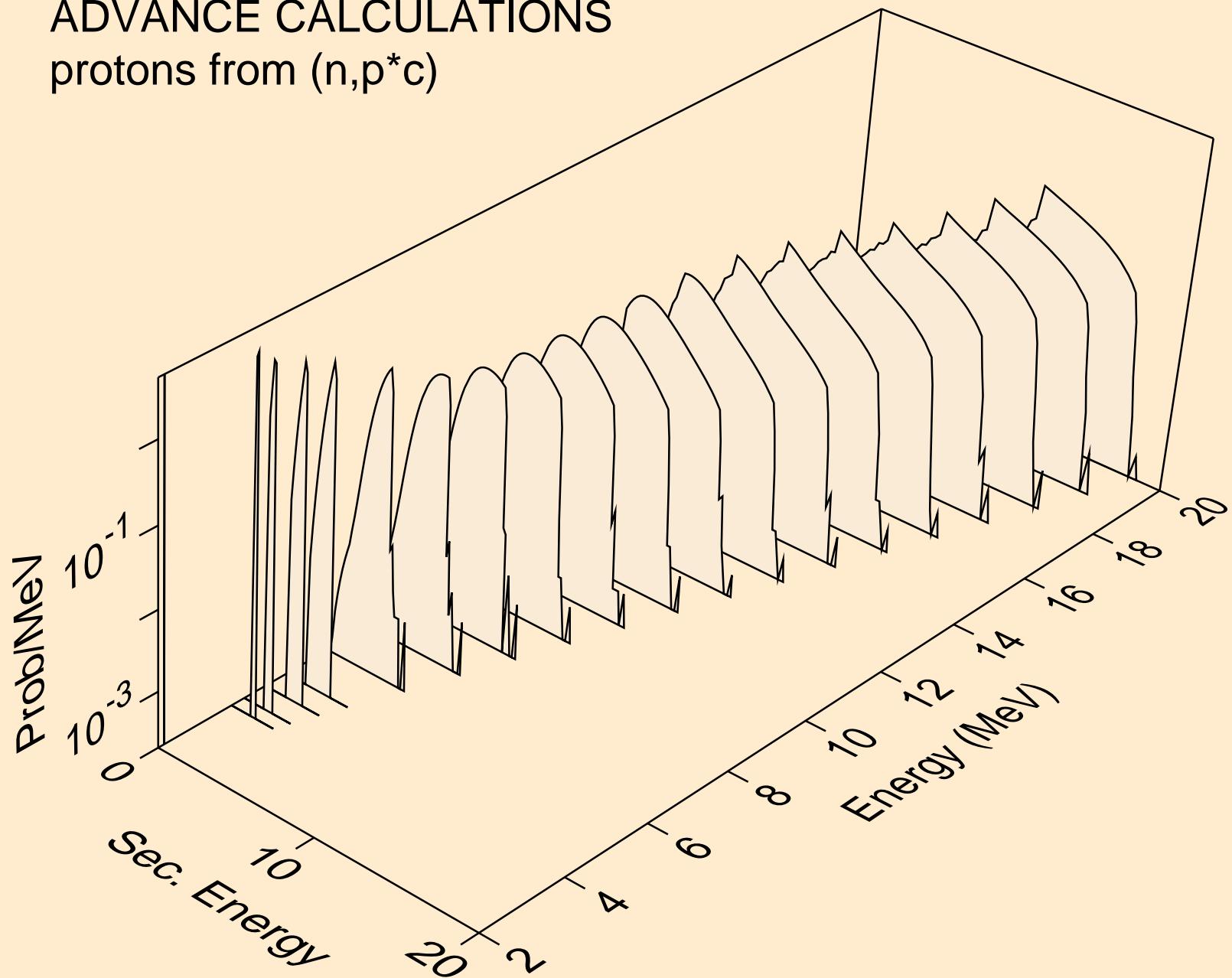
# ADVANCE CALCULATIONS

## angular distribution for ( $n,p^*19$ ) proton



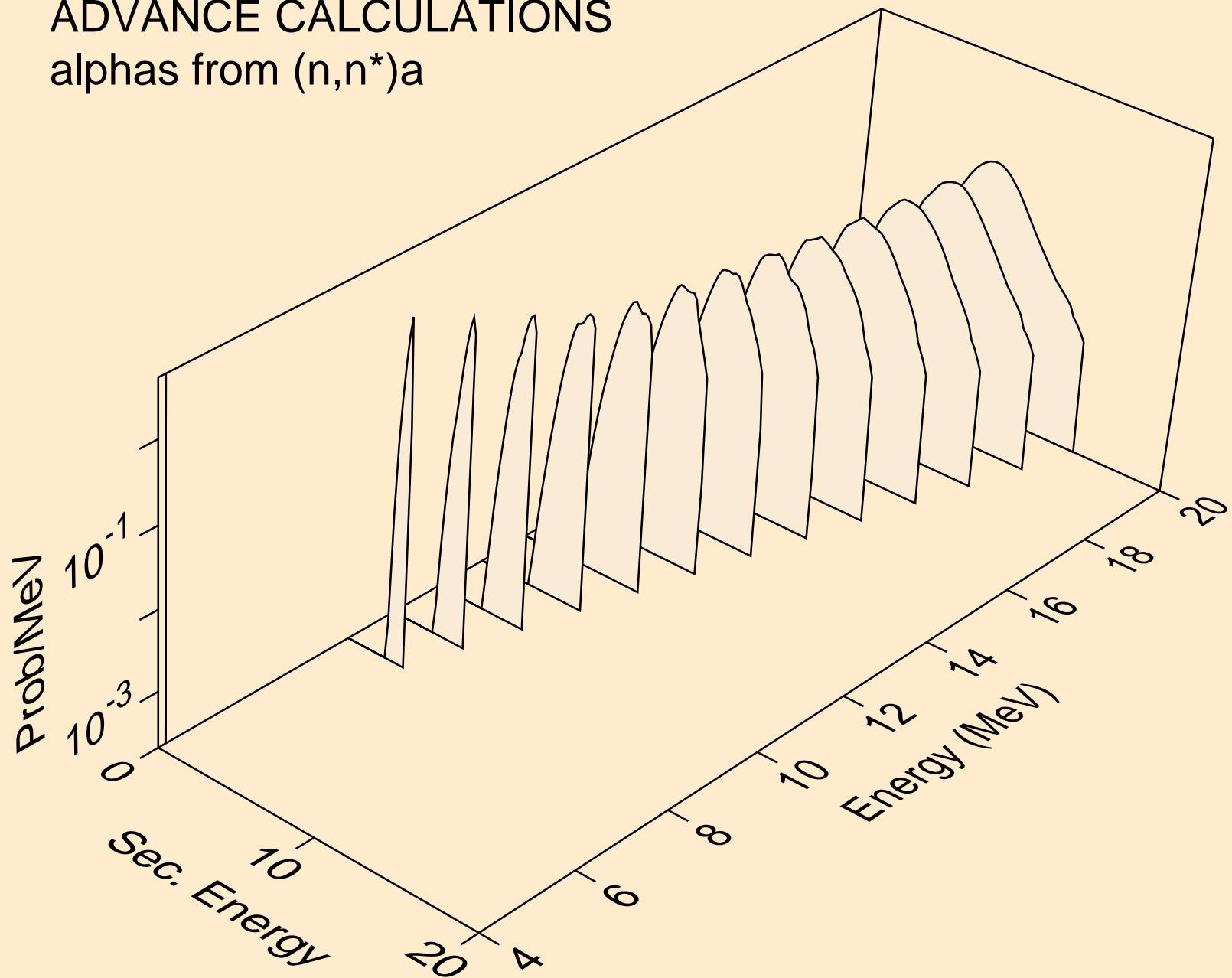
# ADVANCE CALCULATIONS

protons from  $(n, p^*c)$



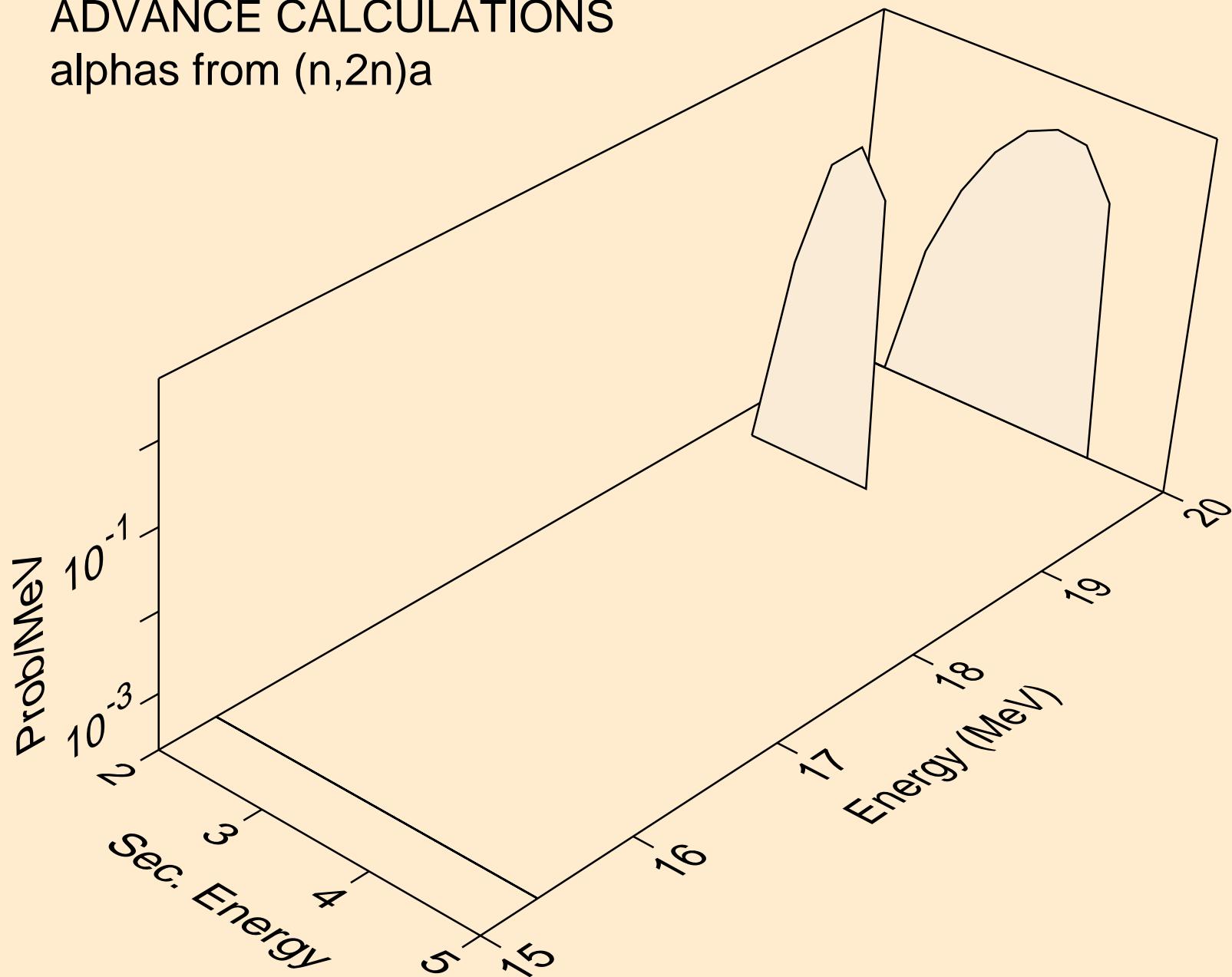
# ADVANCE CALCULATIONS

## alphas from $(n,n^*)a$



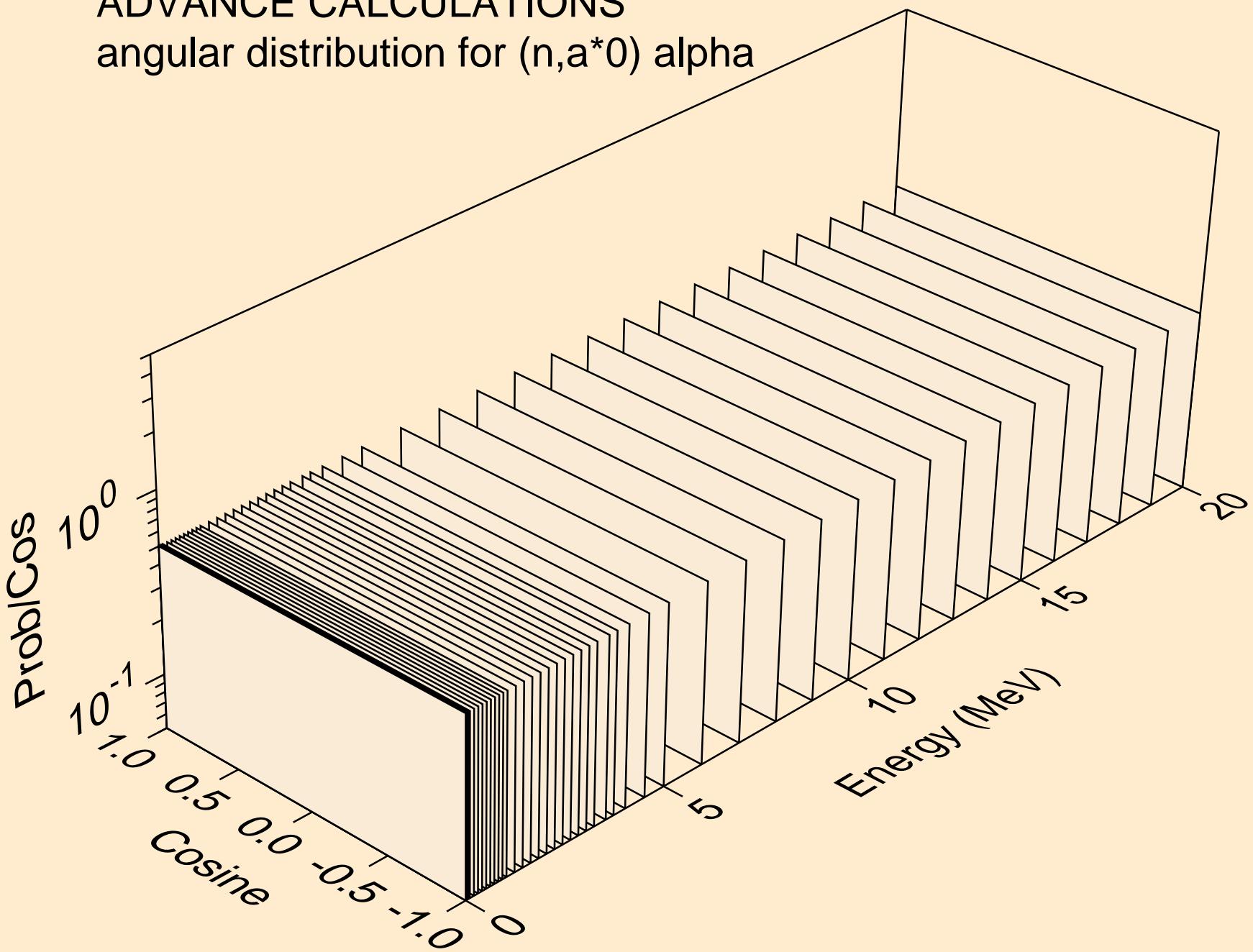
# ADVANCE CALCULATIONS

alphas from  $(n,2n)a$



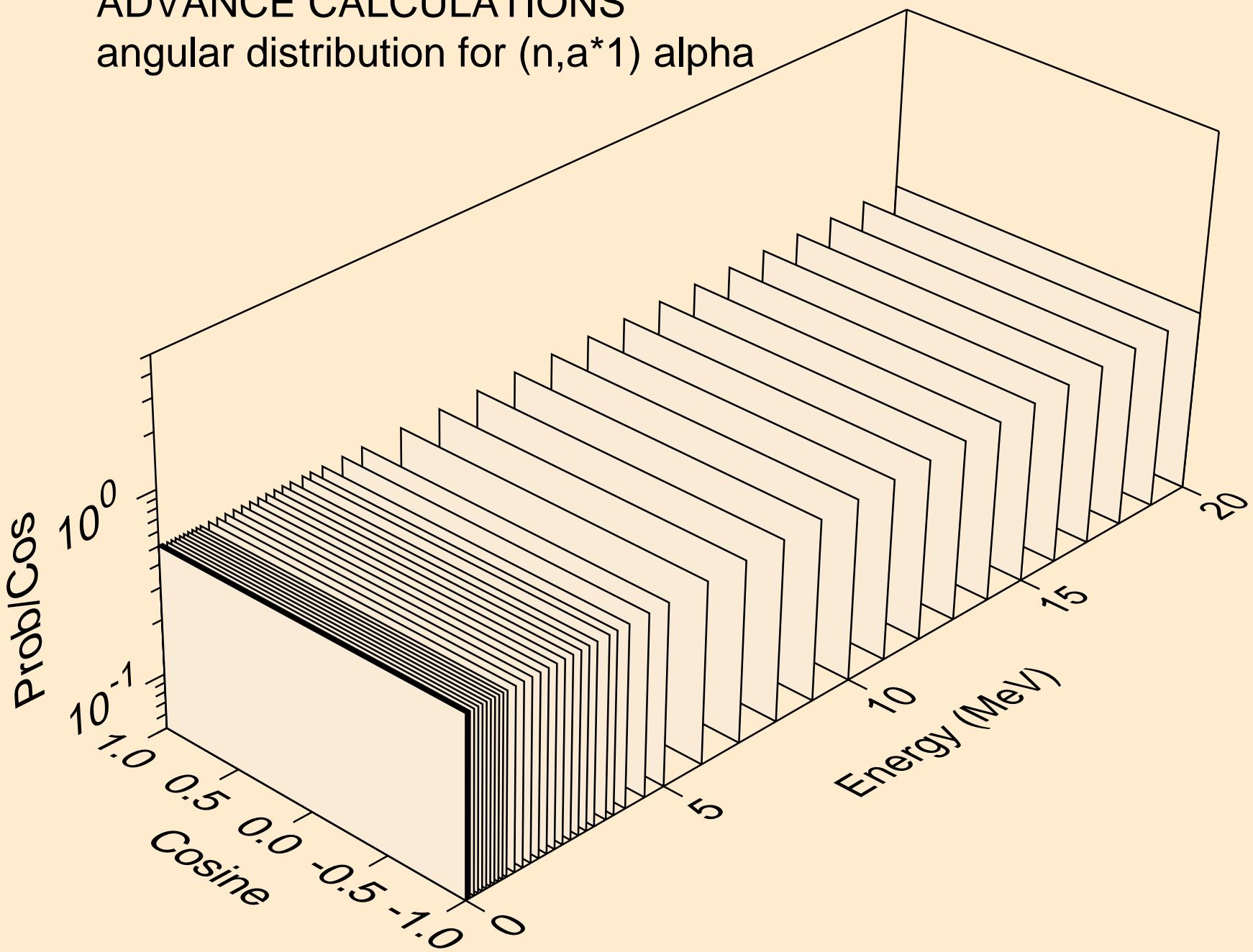
# ADVANCE CALCULATIONS

## angular distribution for $(n,a^*0)$ alpha



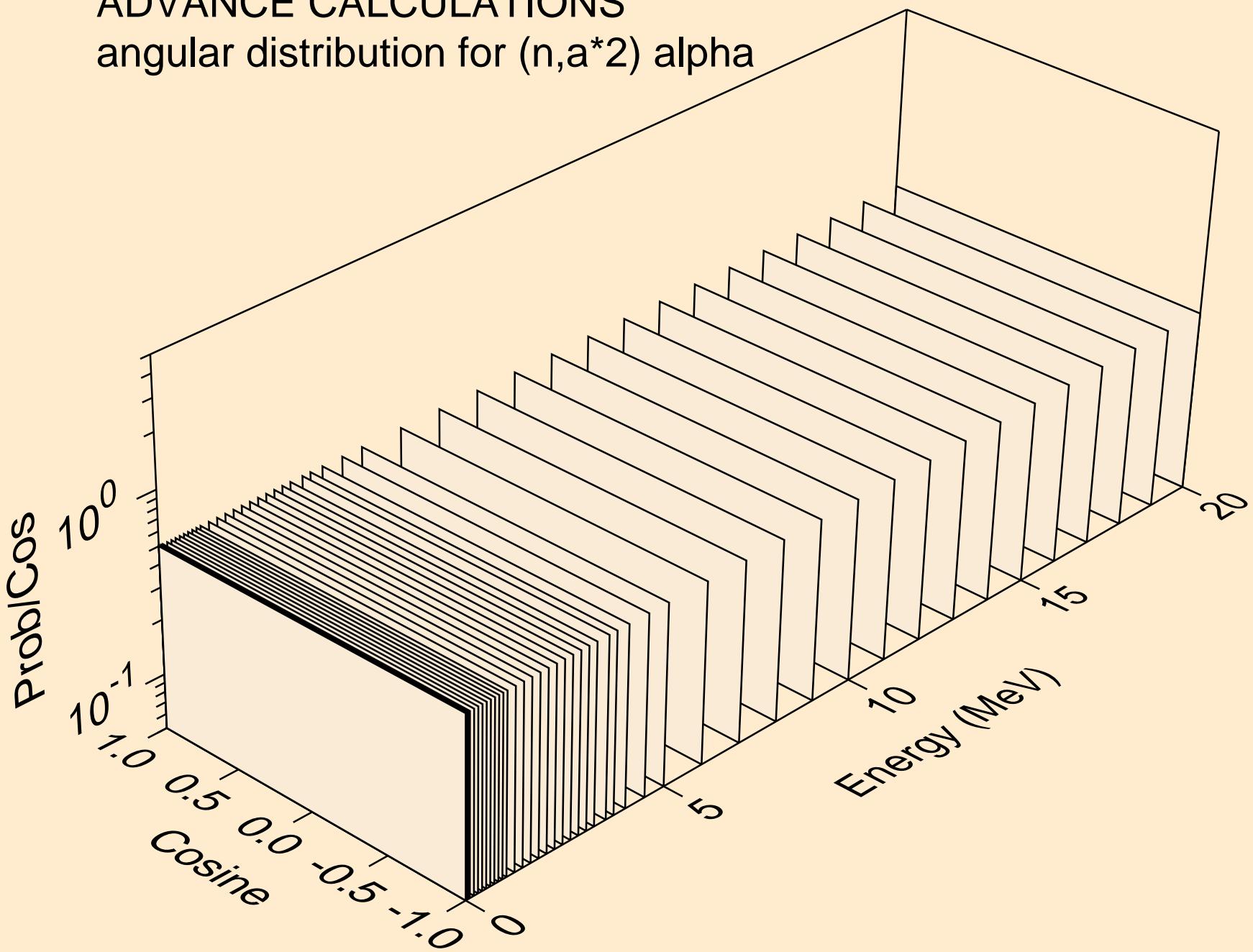
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*1) alpha



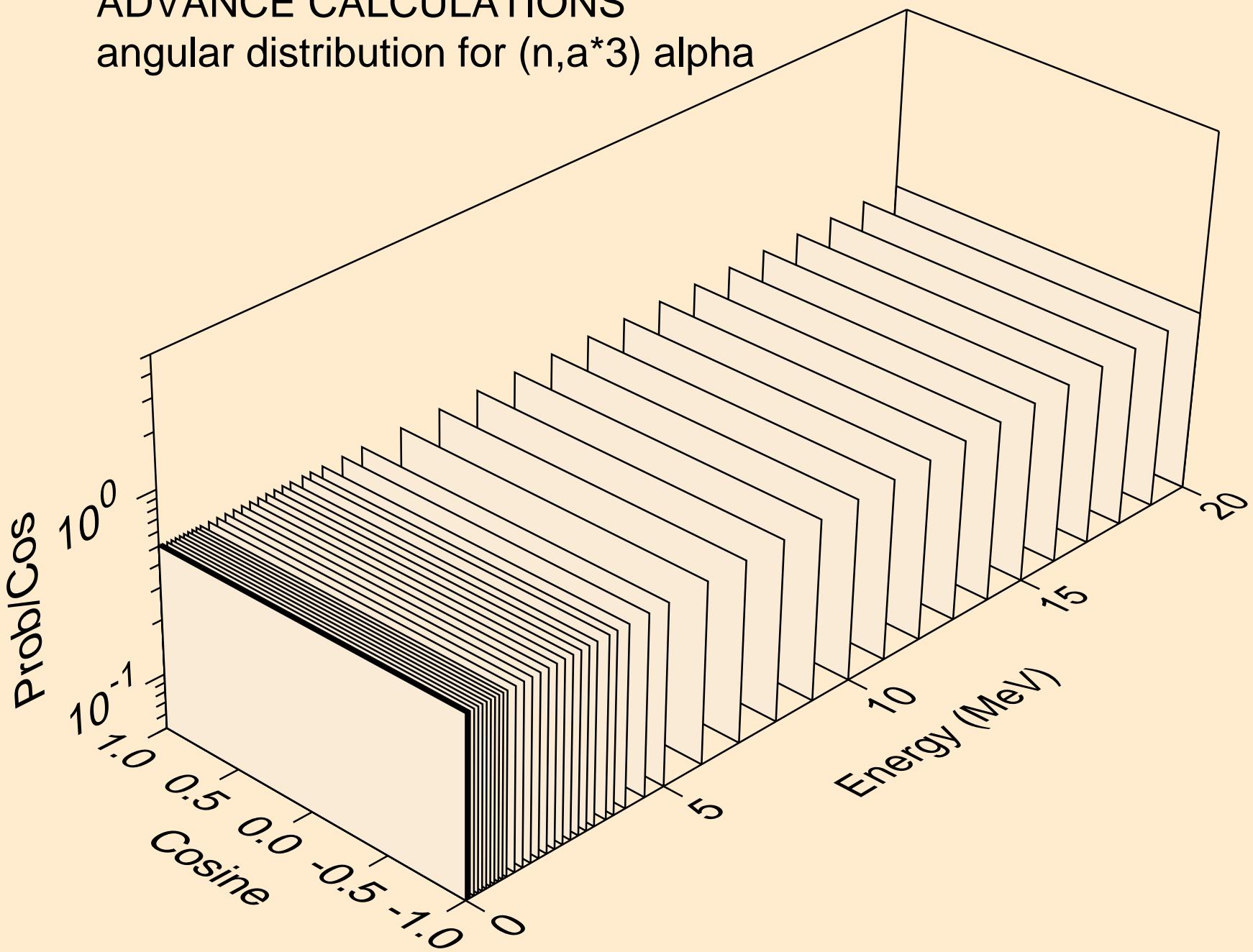
# ADVANCE CALCULATIONS

## angular distribution for $(n,a^*2)$ alpha



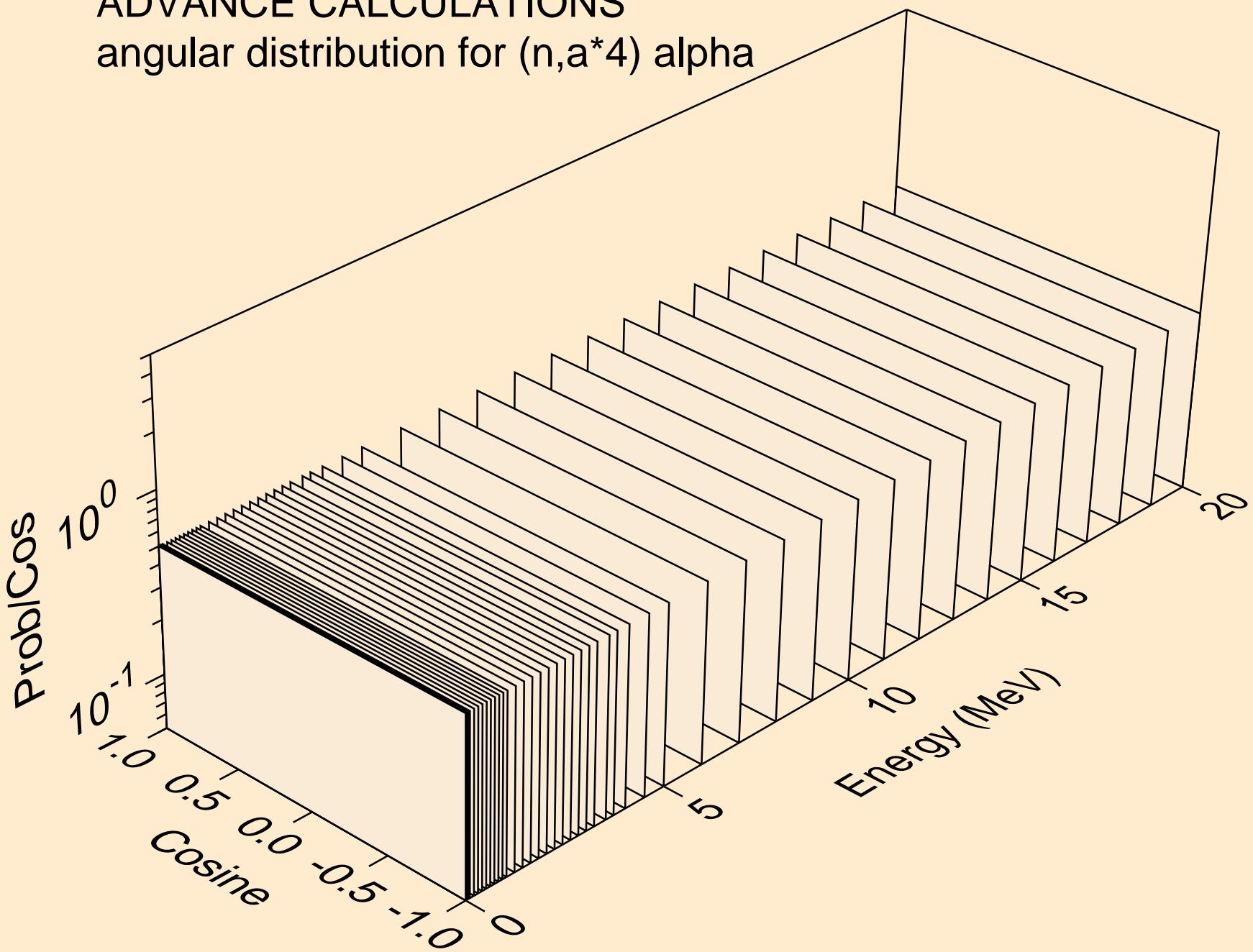
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*3) alpha



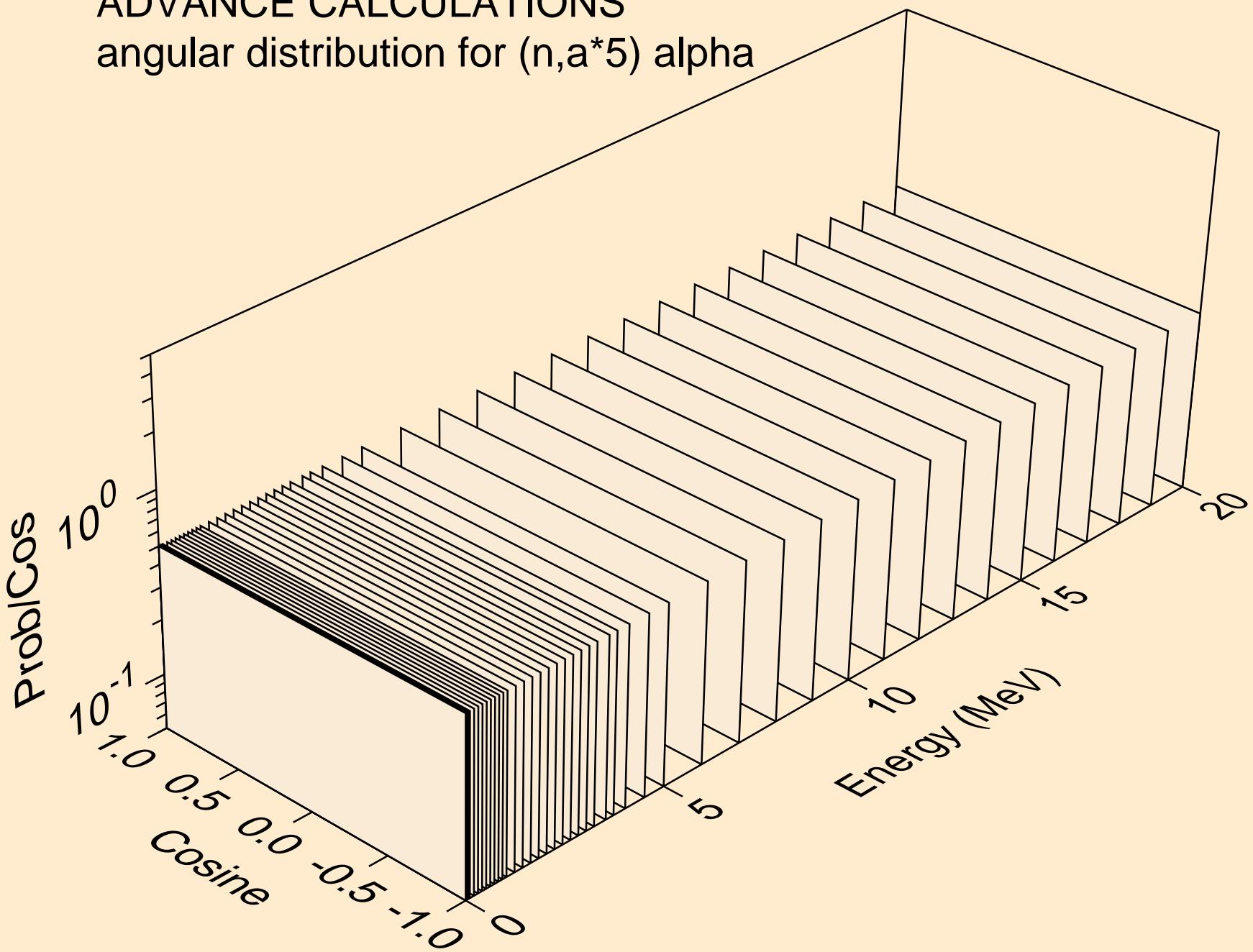
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*4) alpha



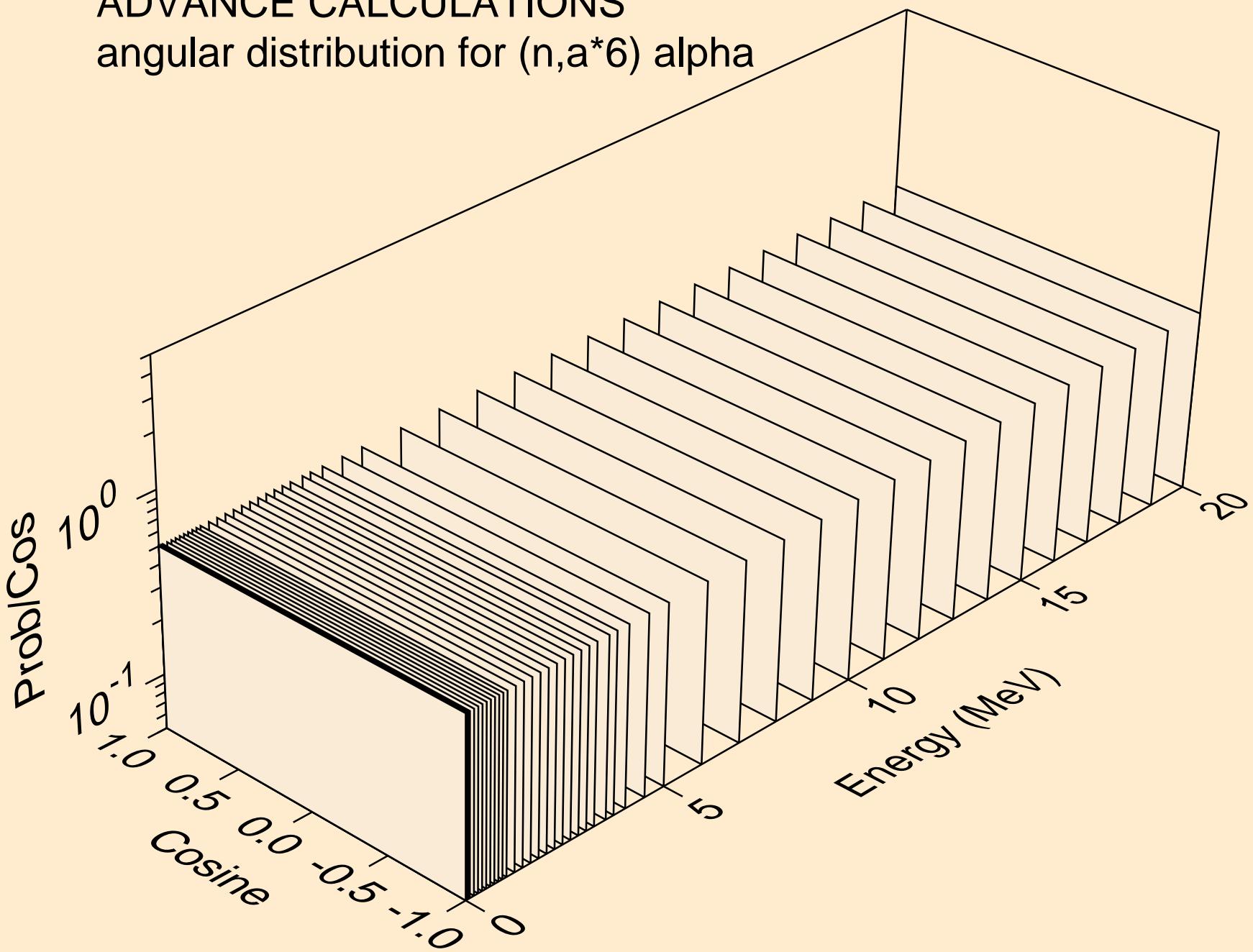
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*5) alpha



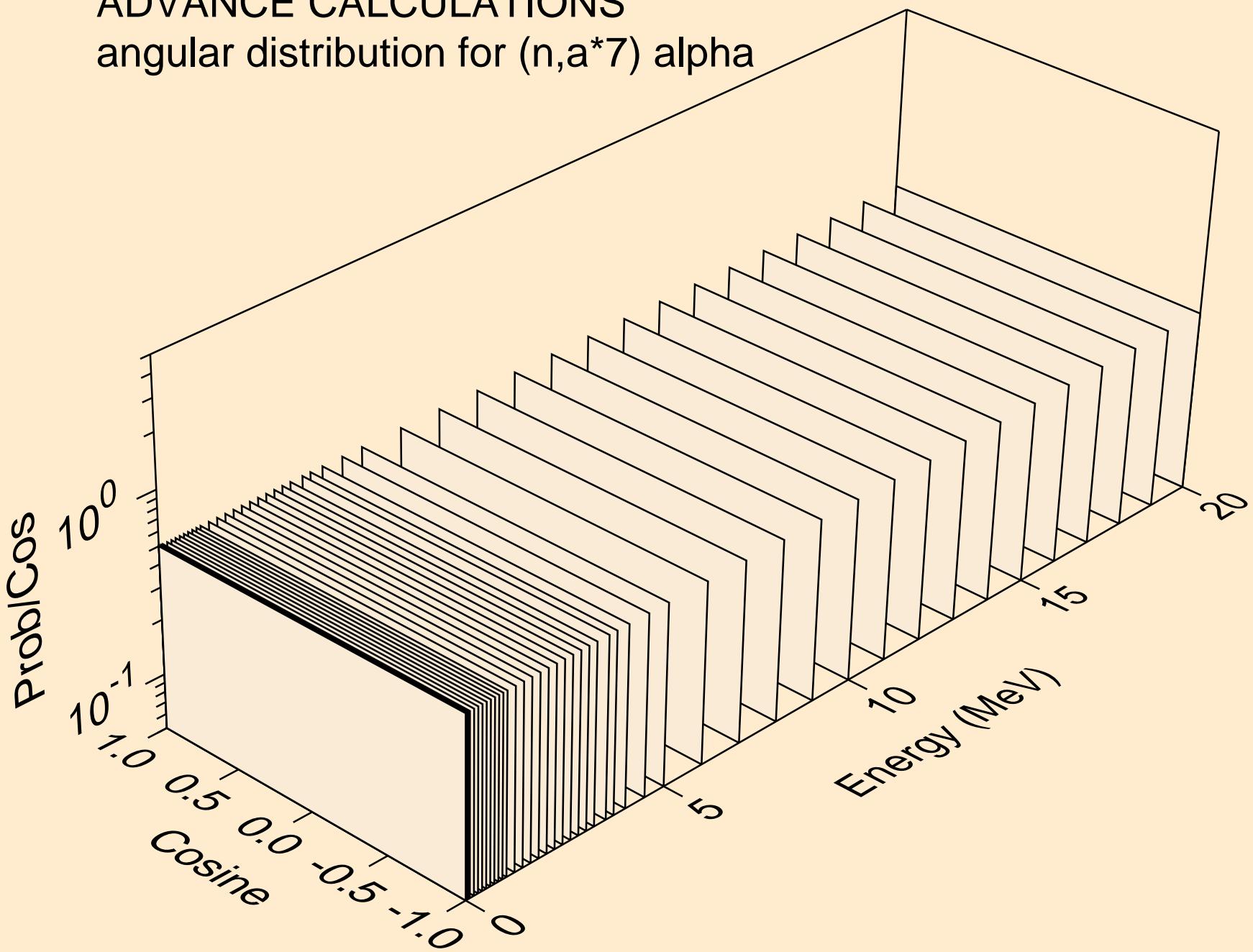
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*6) alpha



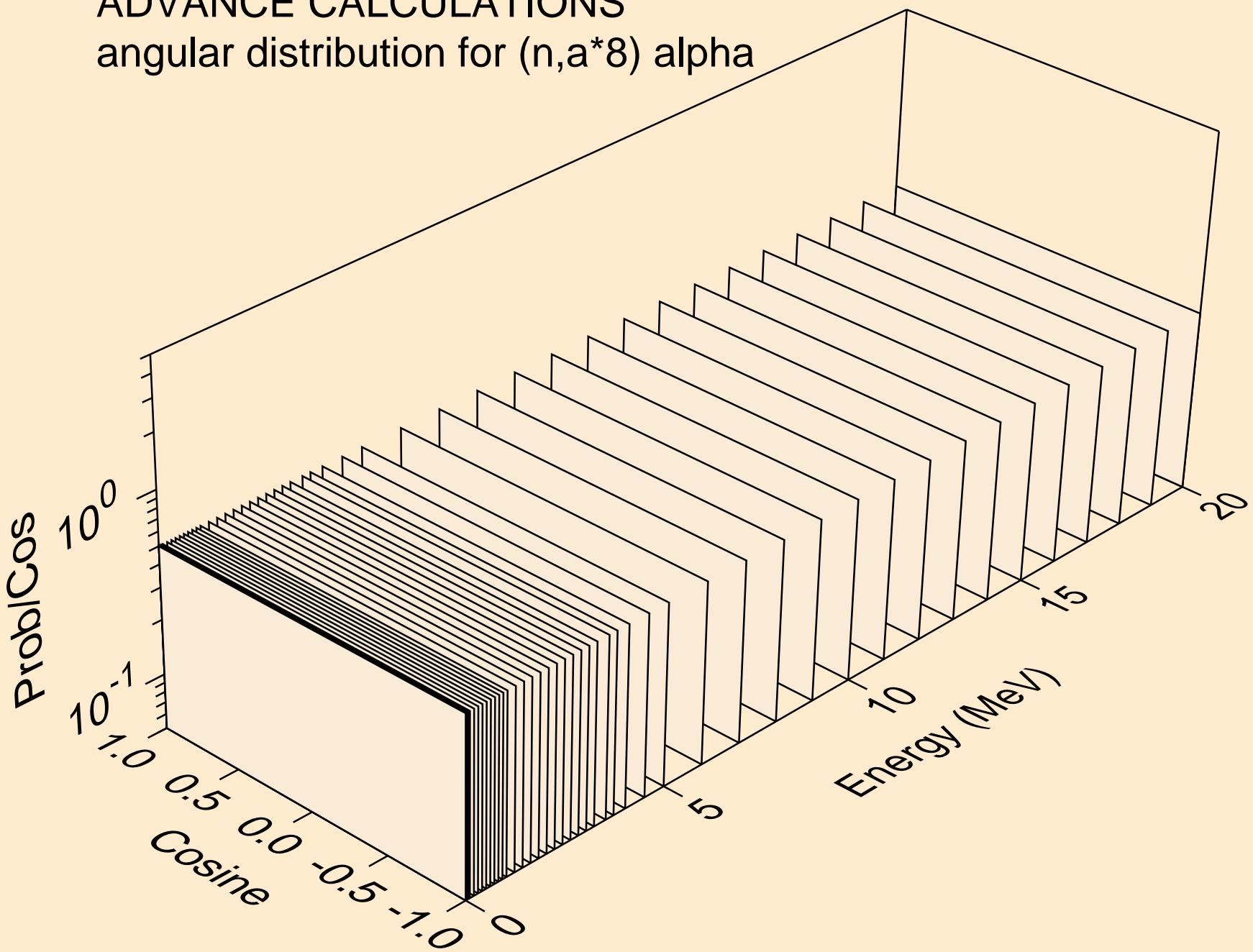
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 7$ ) alpha



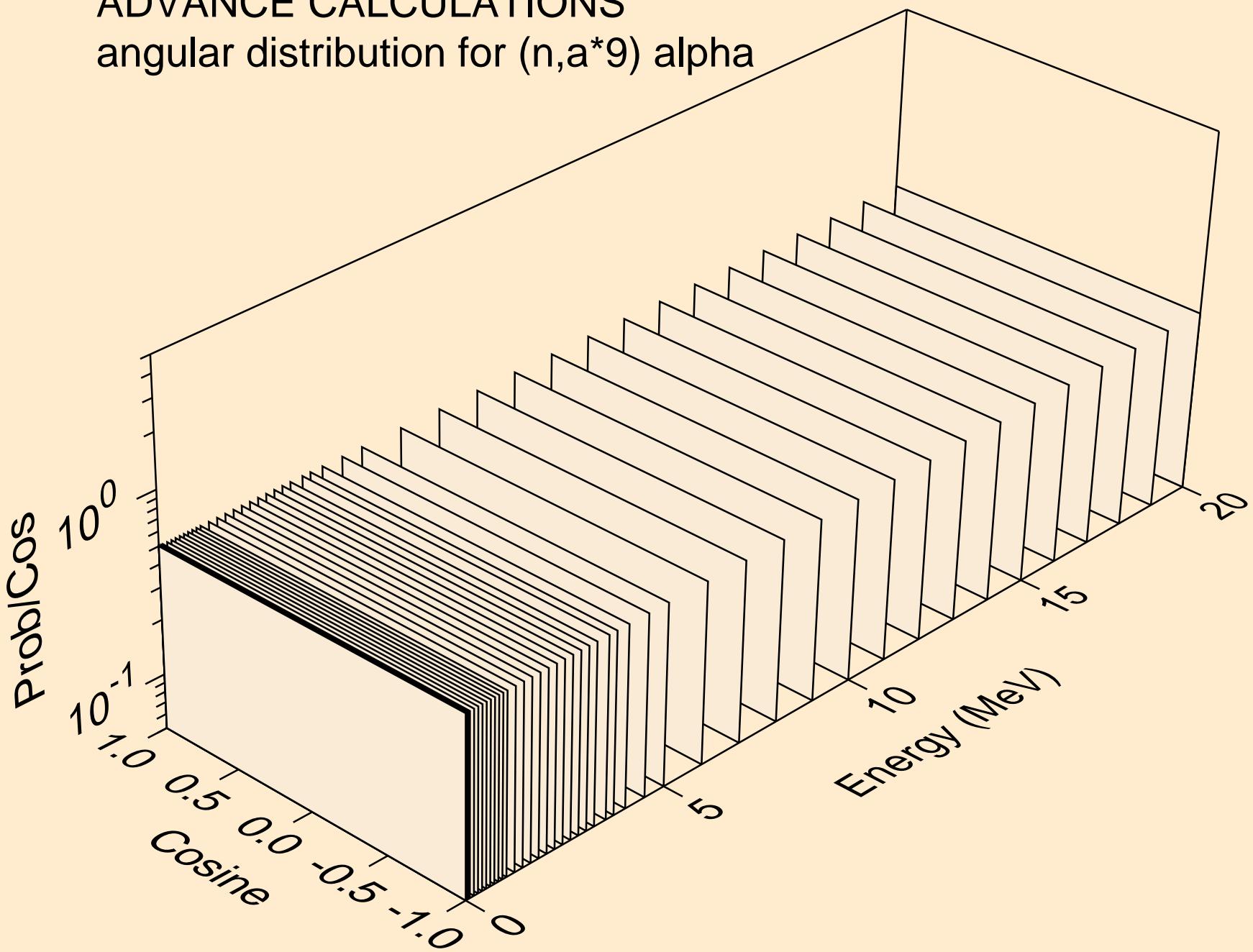
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*8) alpha



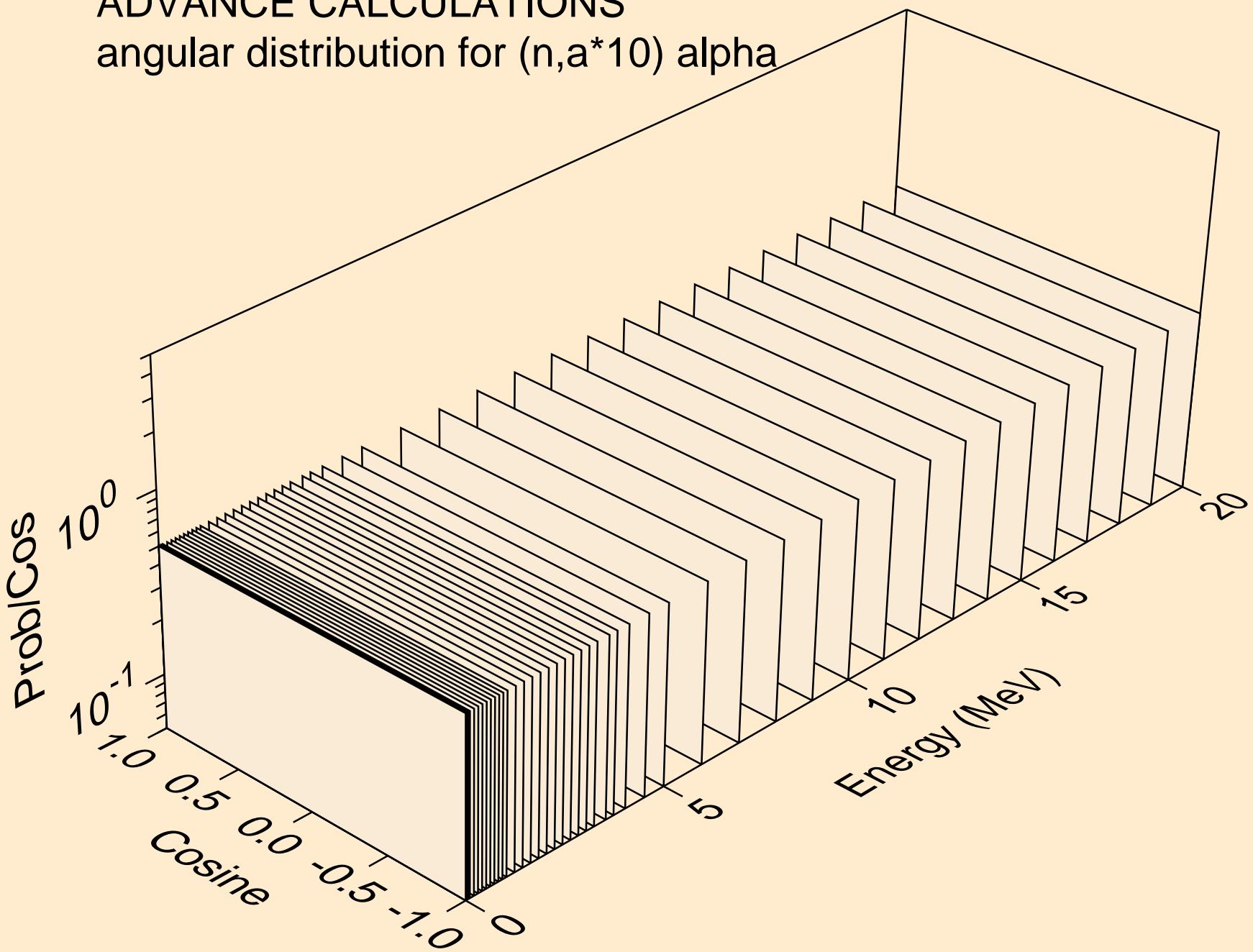
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*9) alpha



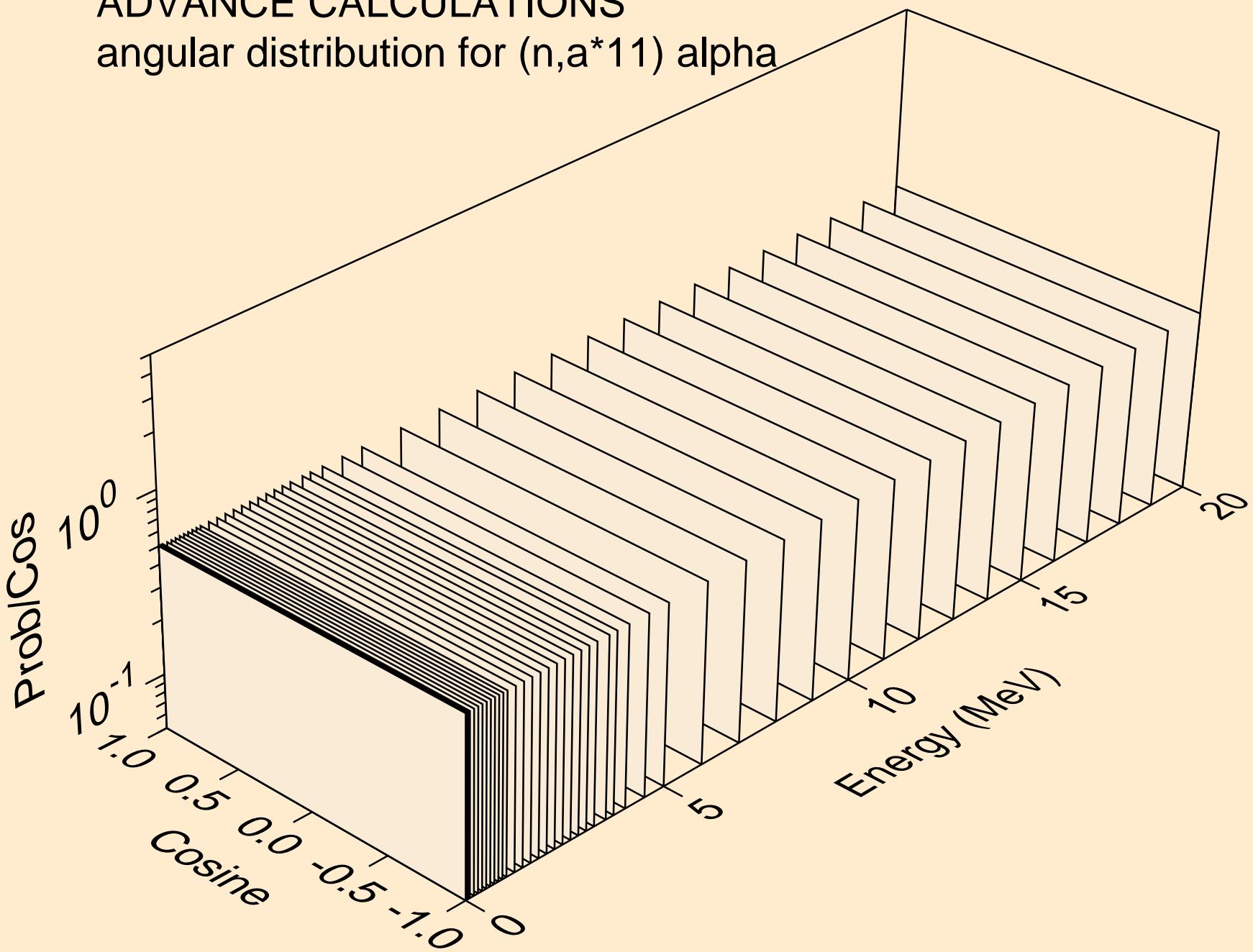
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*10) alpha



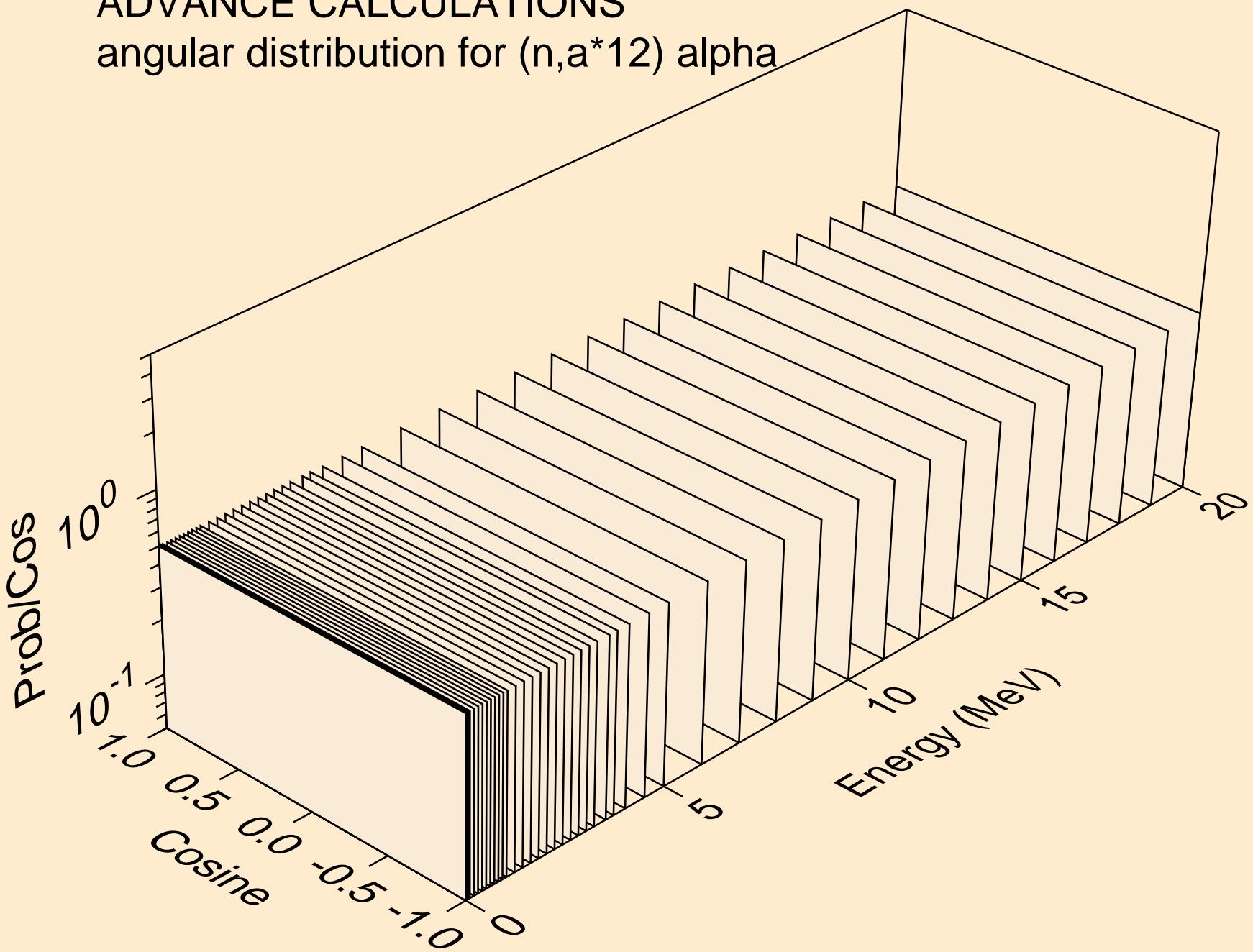
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*11) alpha



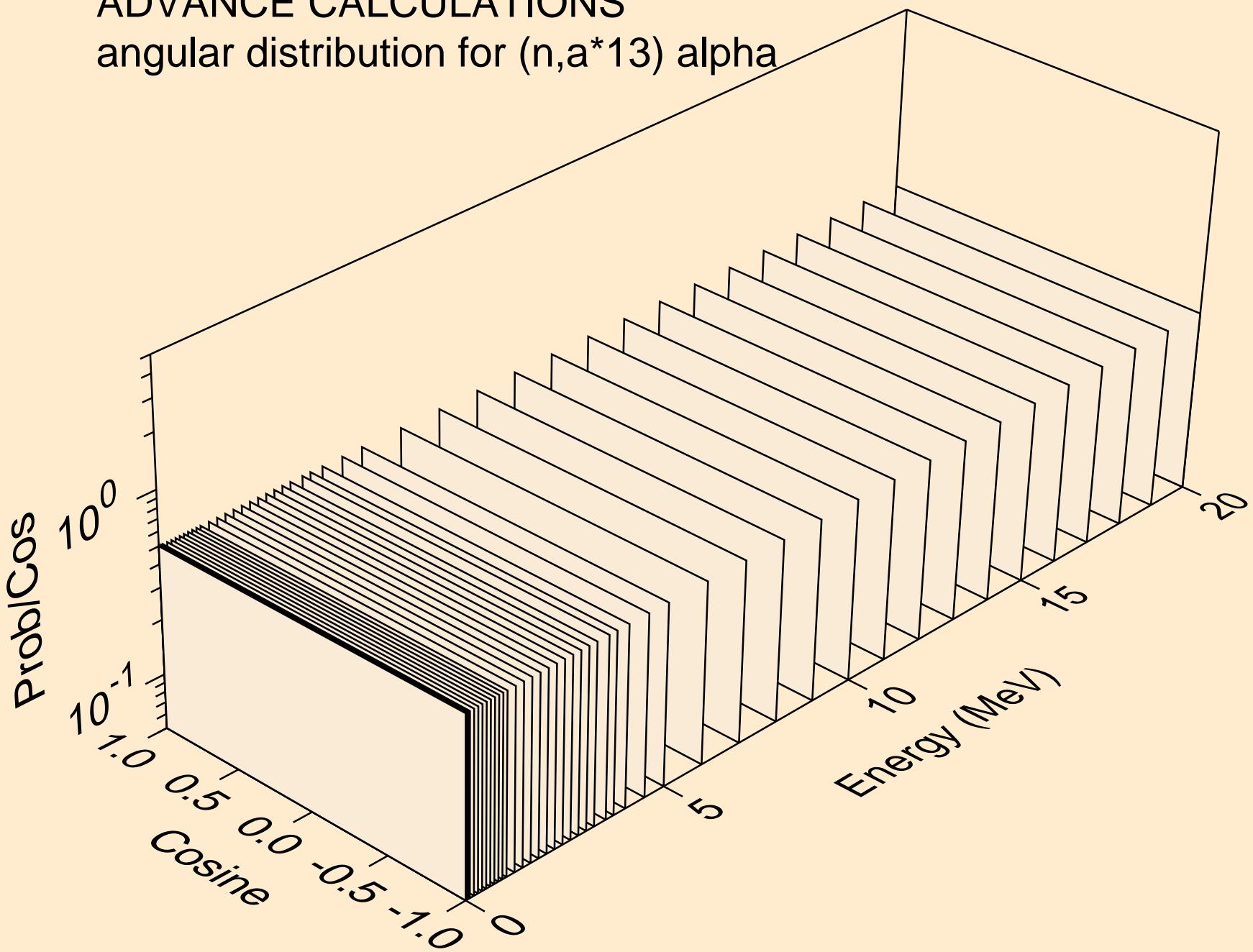
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*12) alpha



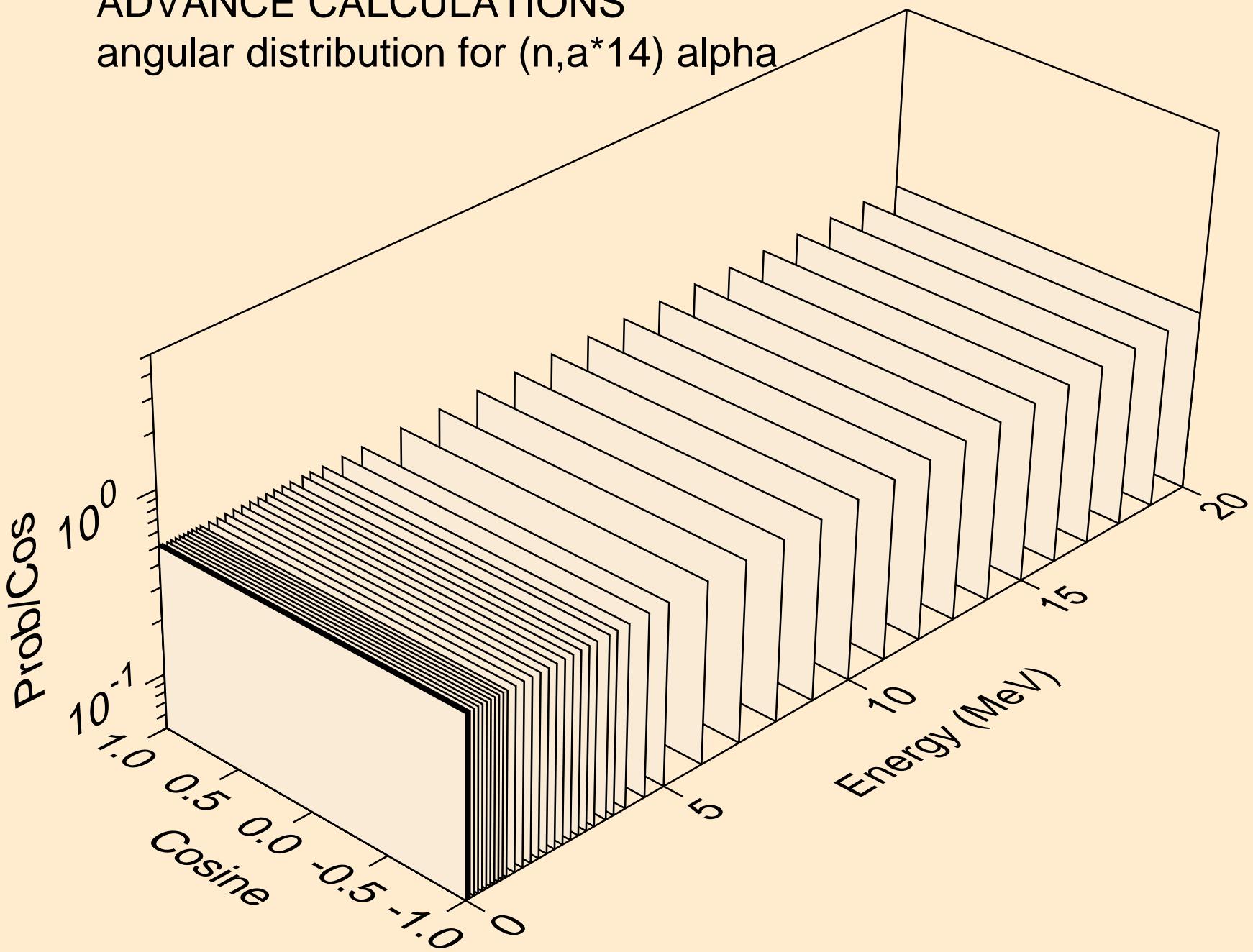
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*13) alpha



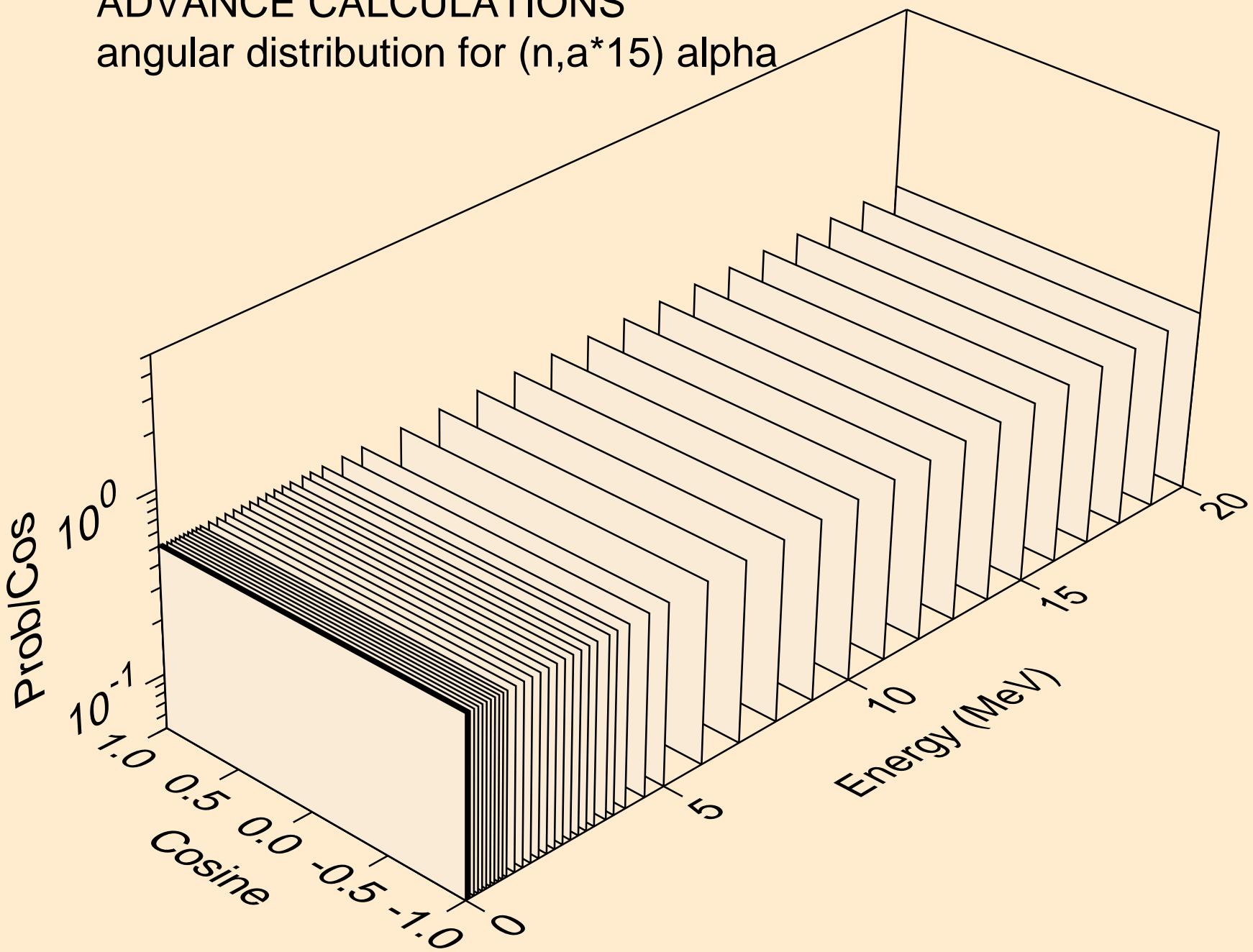
# ADVANCE CALCULATIONS

angular distribution for ( $n, a^* 14$ ) alpha



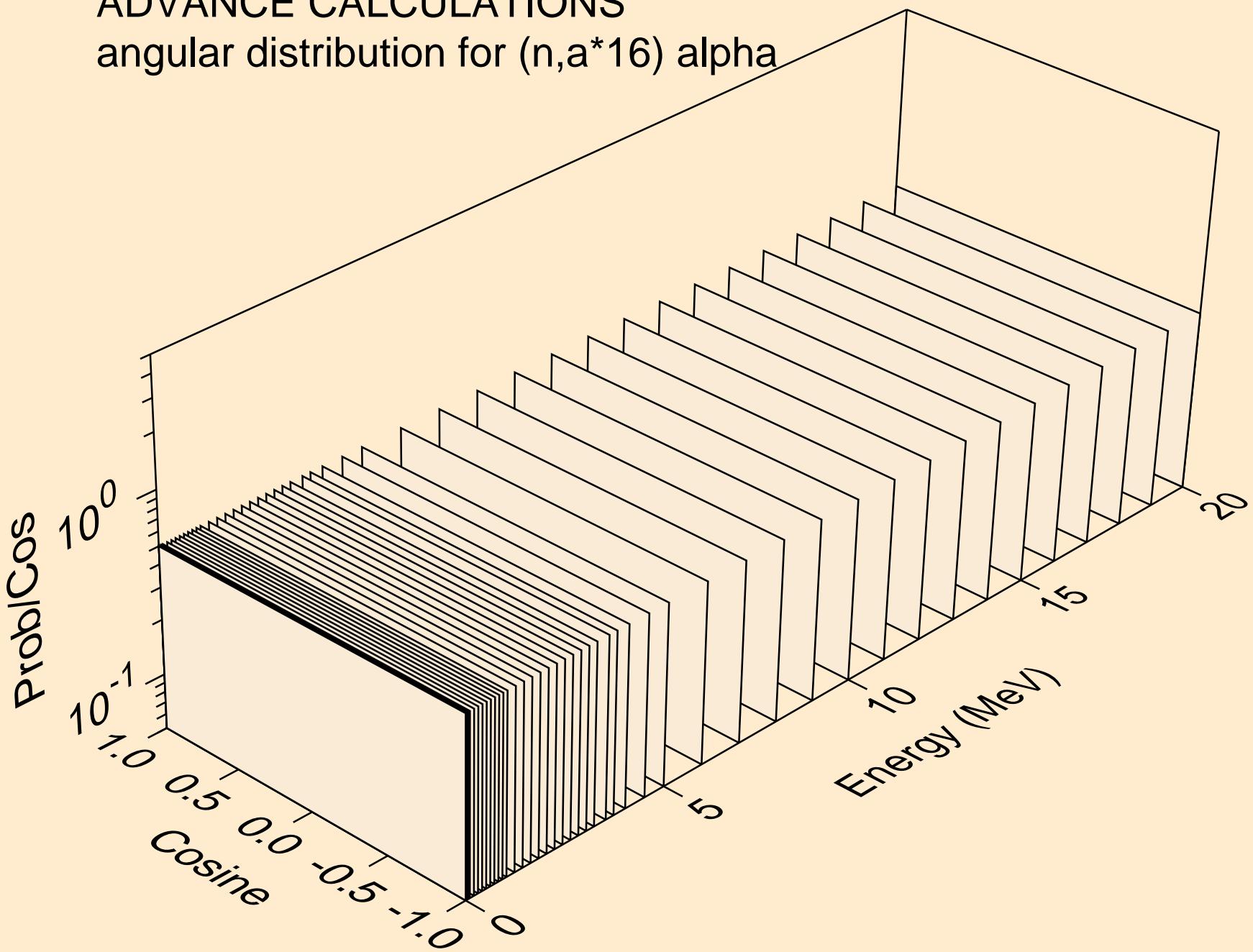
# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*15$ ) alpha



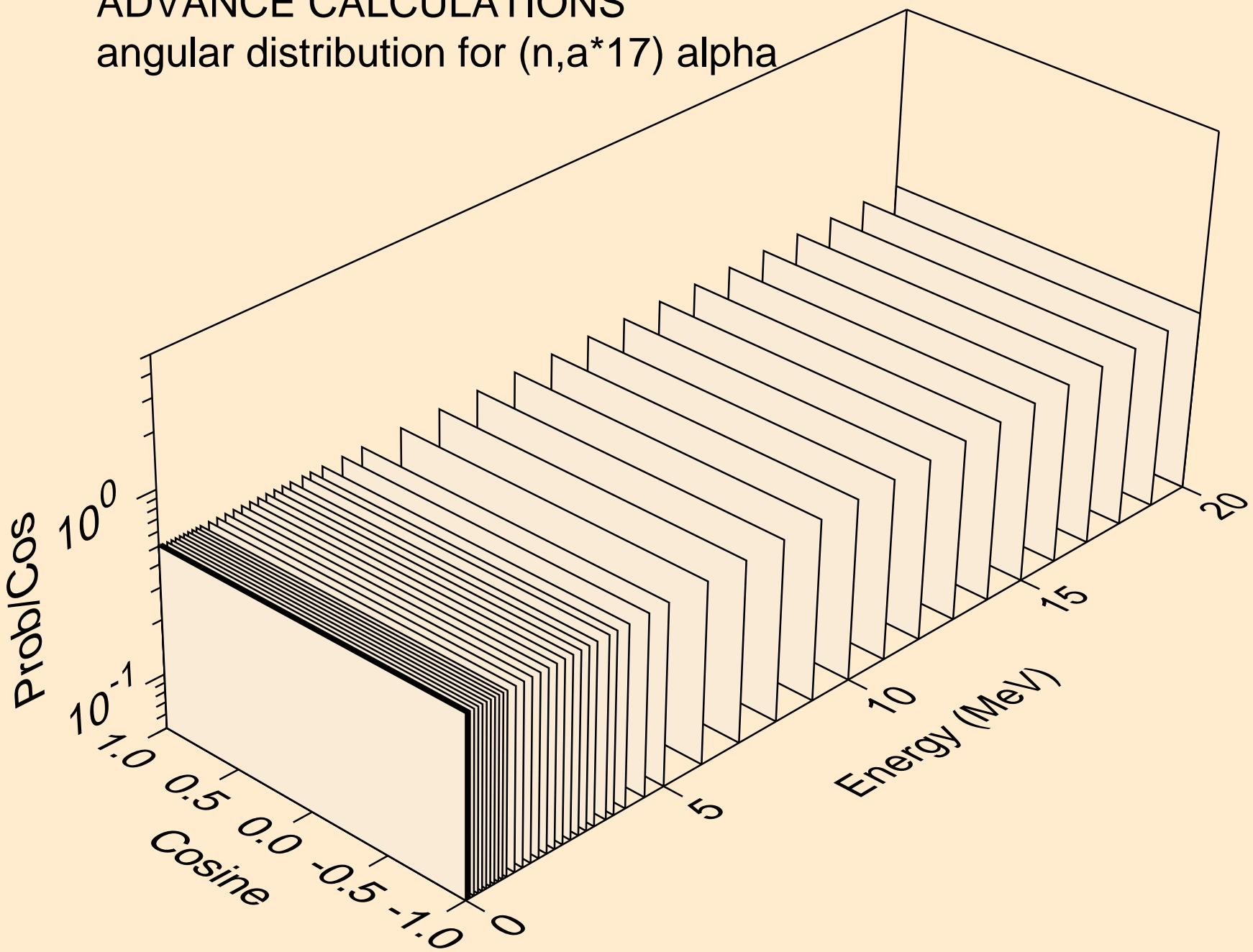
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 16$ ) alpha



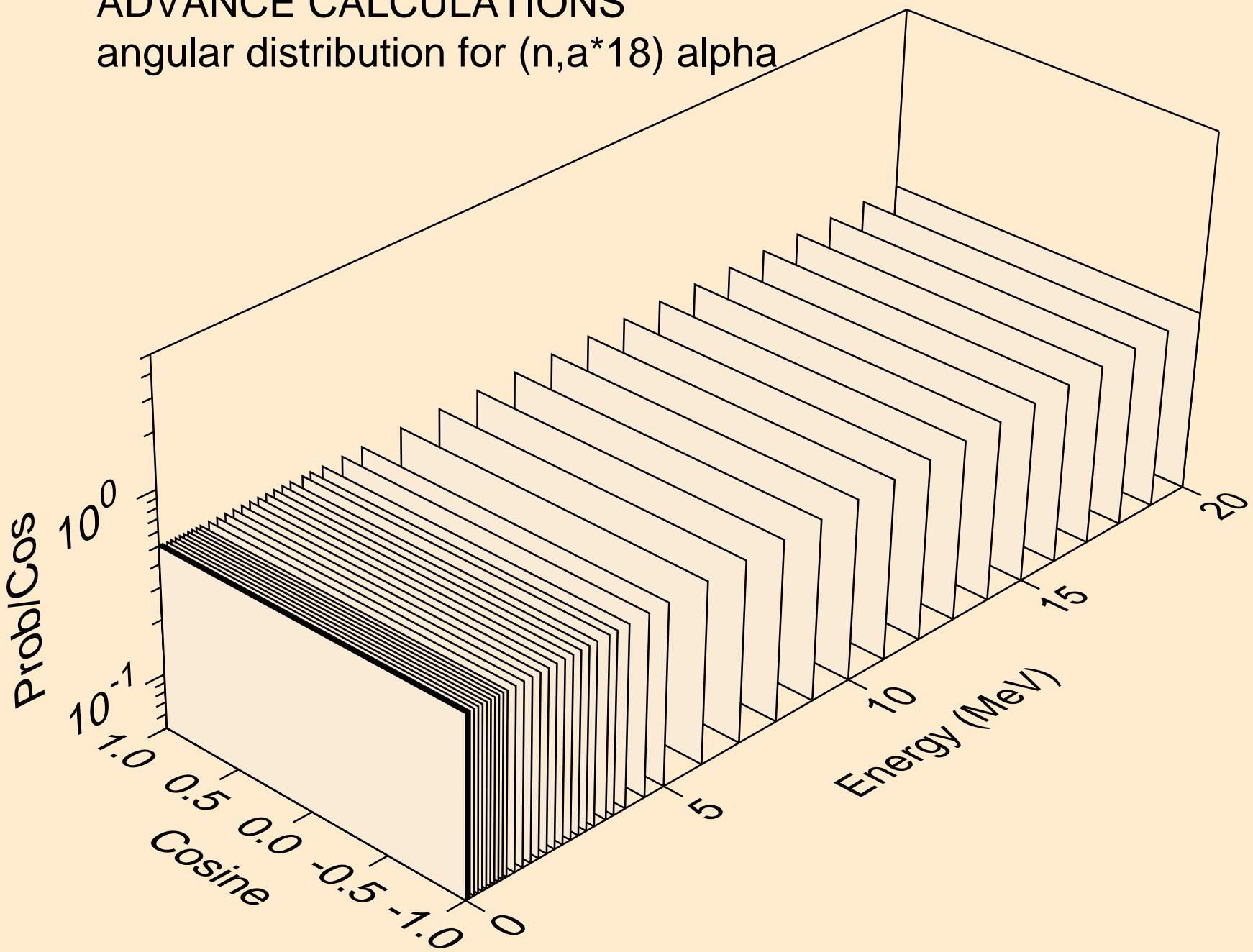
# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*17$ ) alpha



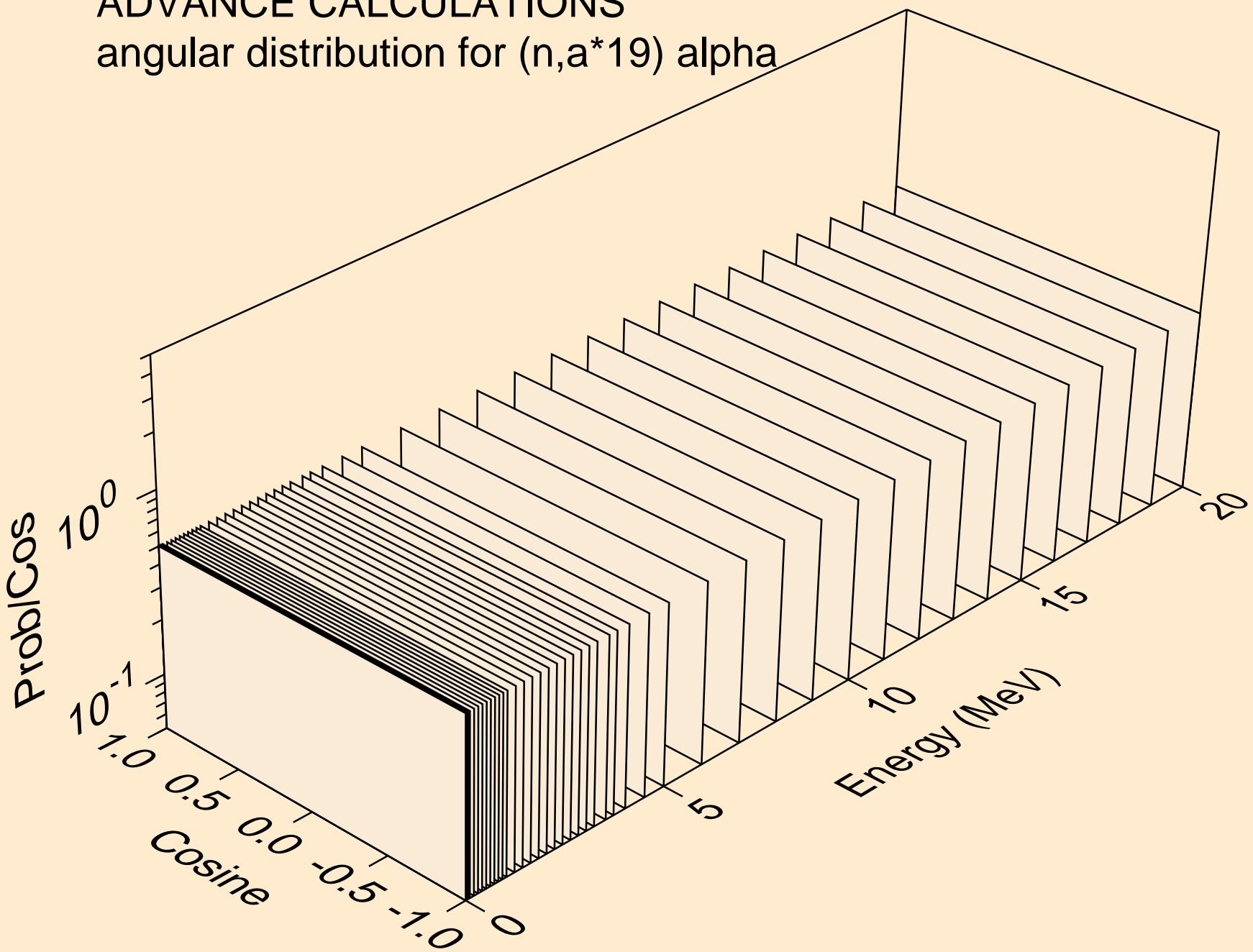
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*18) alpha



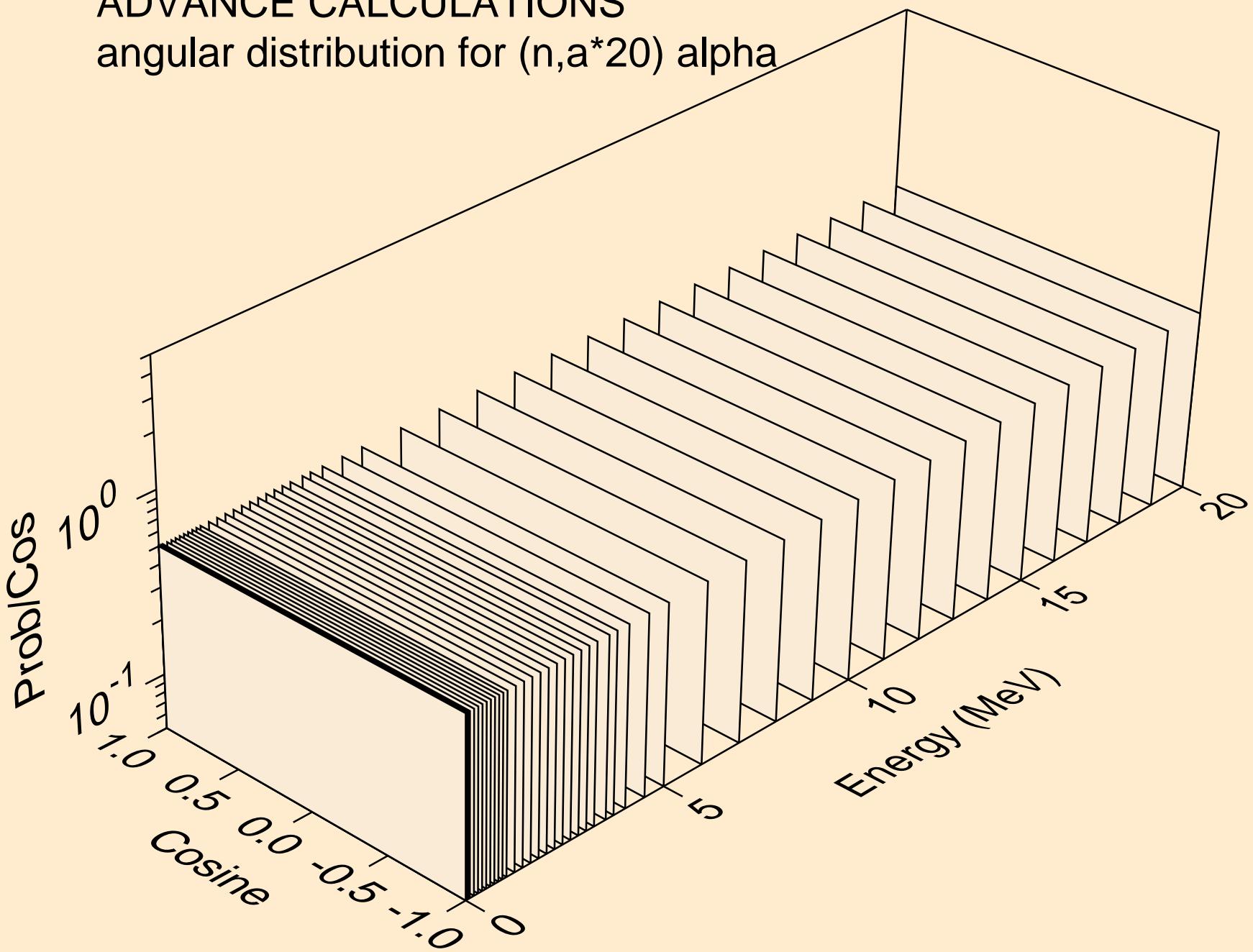
# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*19$ ) alpha



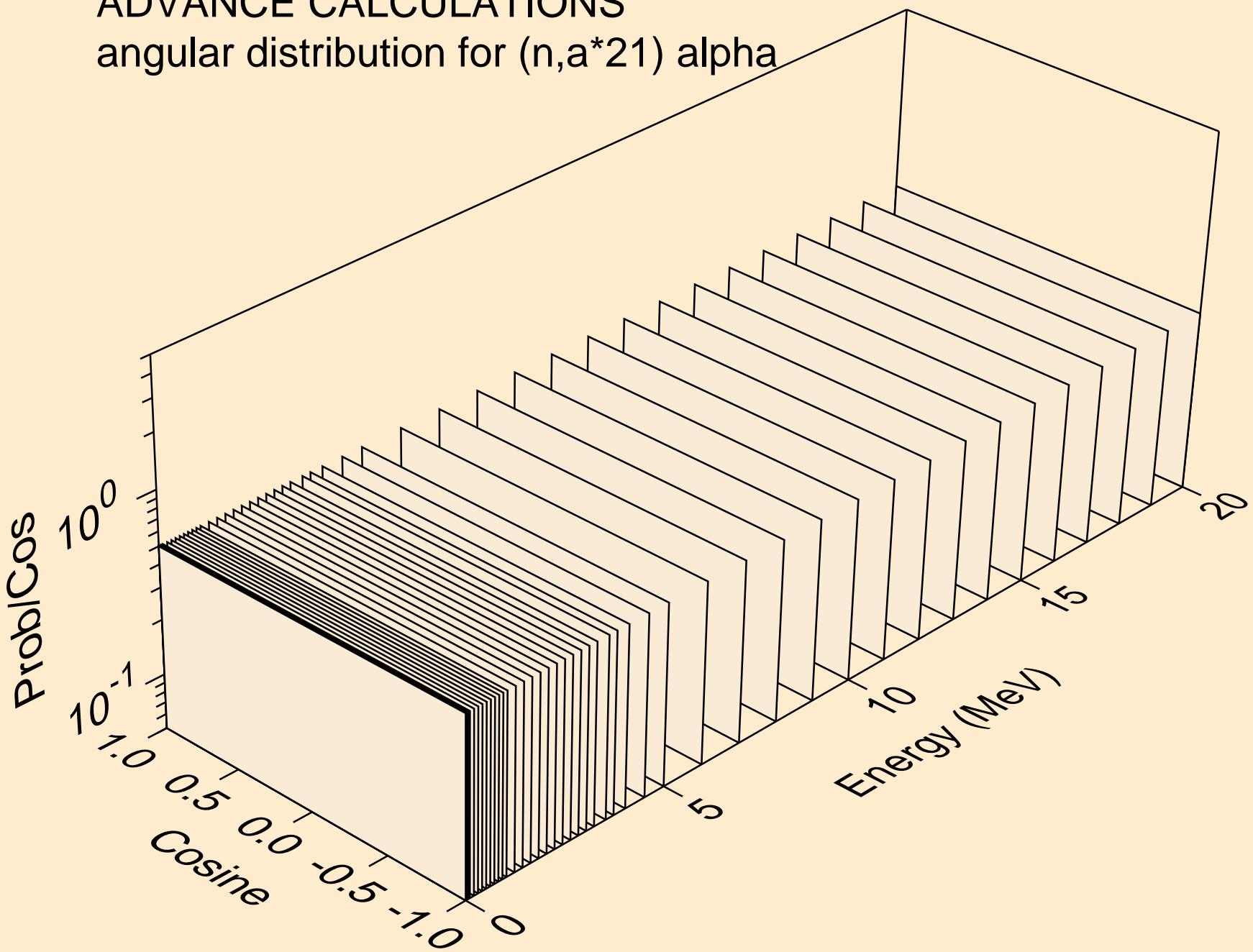
# ADVANCE CALCULATIONS

angular distribution for  $(n,a^*20)$  alpha



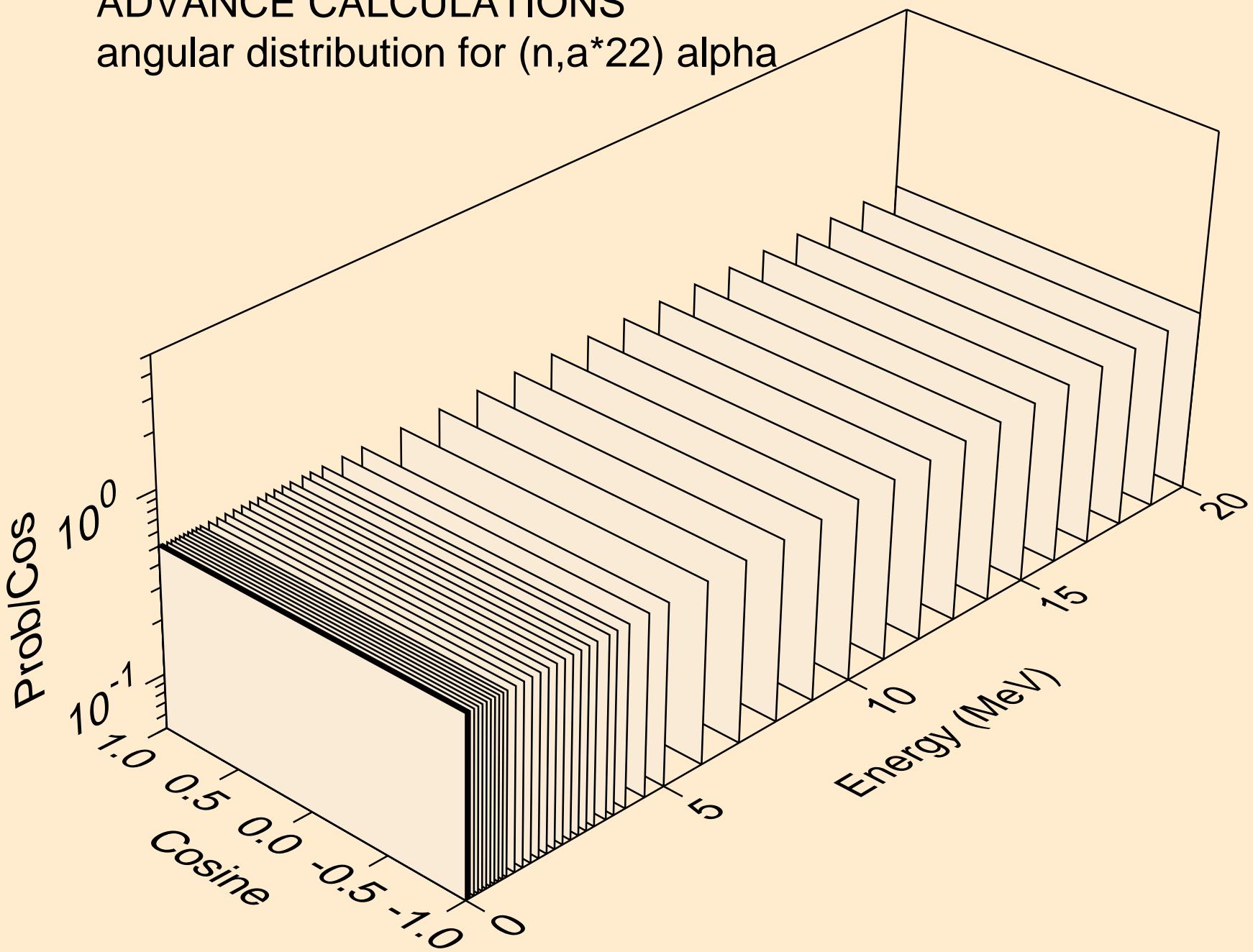
# ADVANCE CALCULATIONS

angular distribution for ( $n, a^* 21$ ) alpha



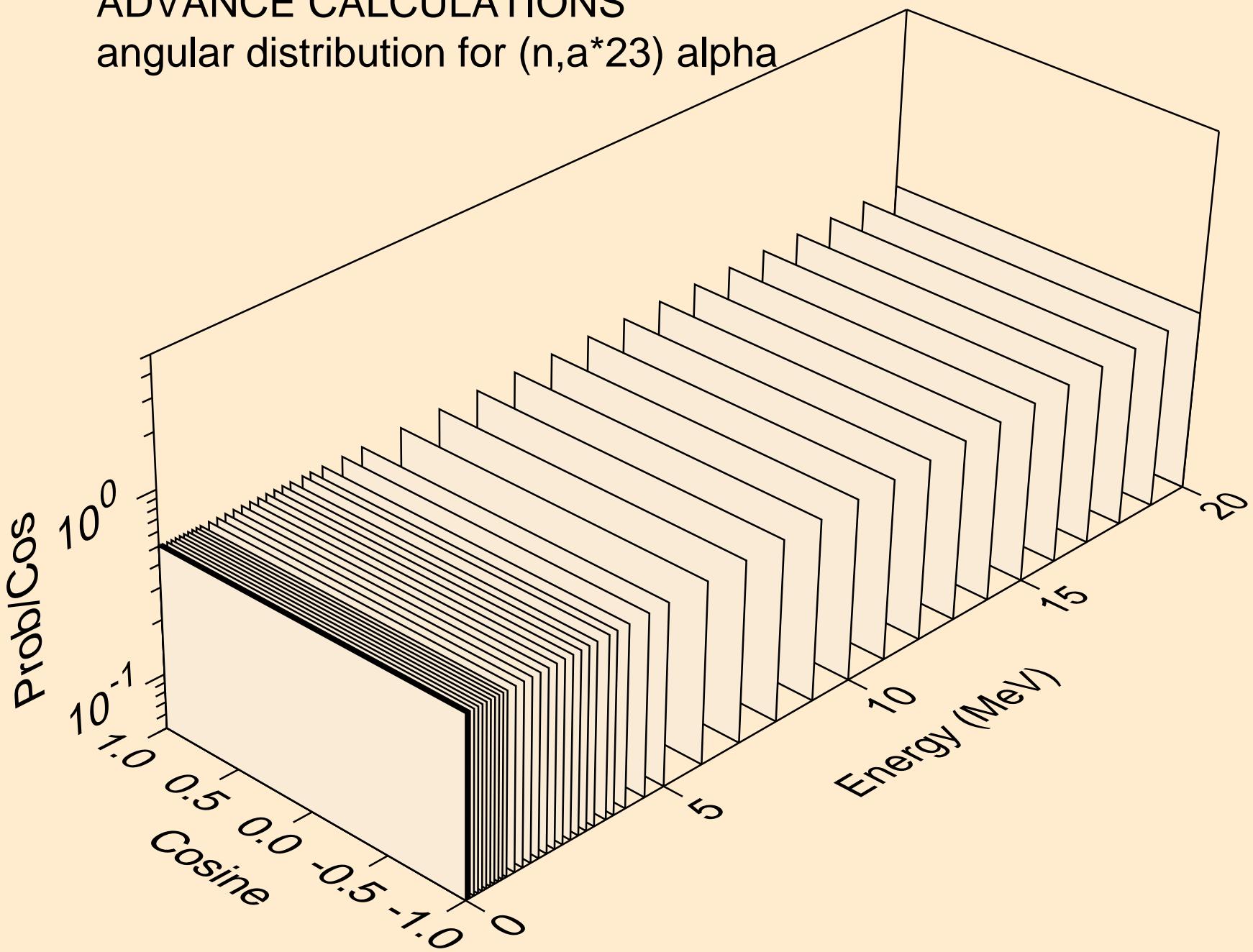
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 22$ ) alpha



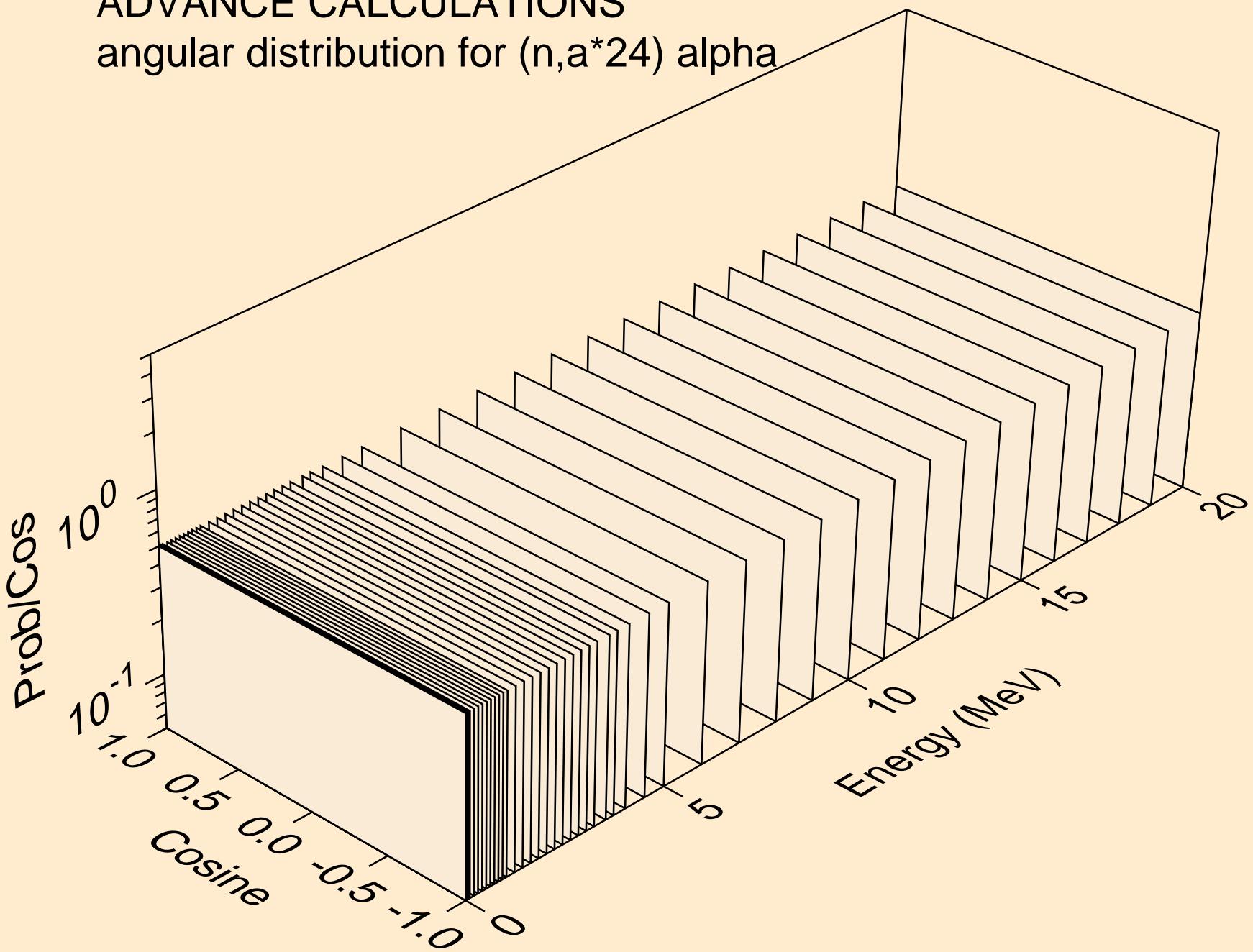
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 23$ ) alpha



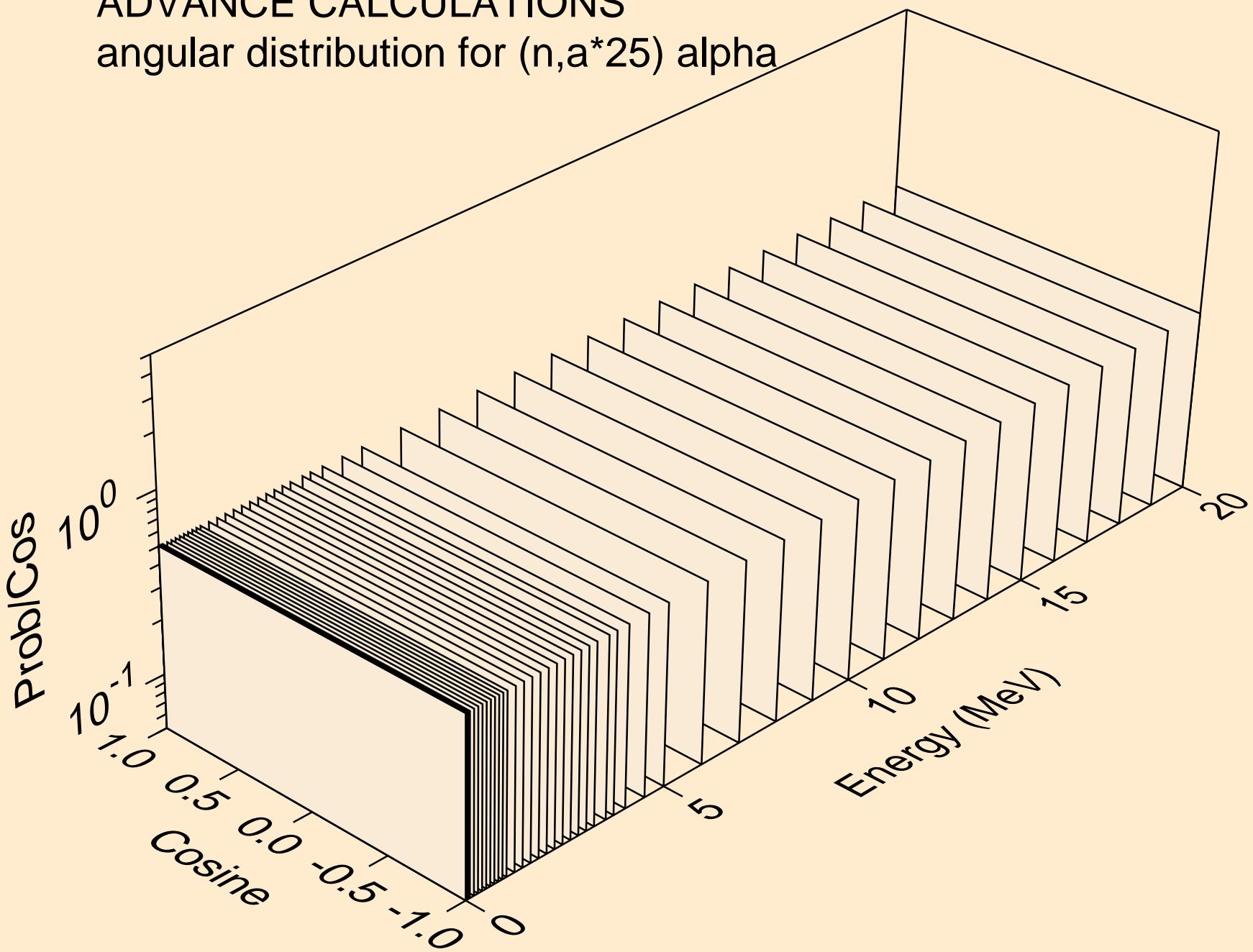
# ADVANCE CALCULATIONS

angular distribution for  $(n,a^*24)$  alpha



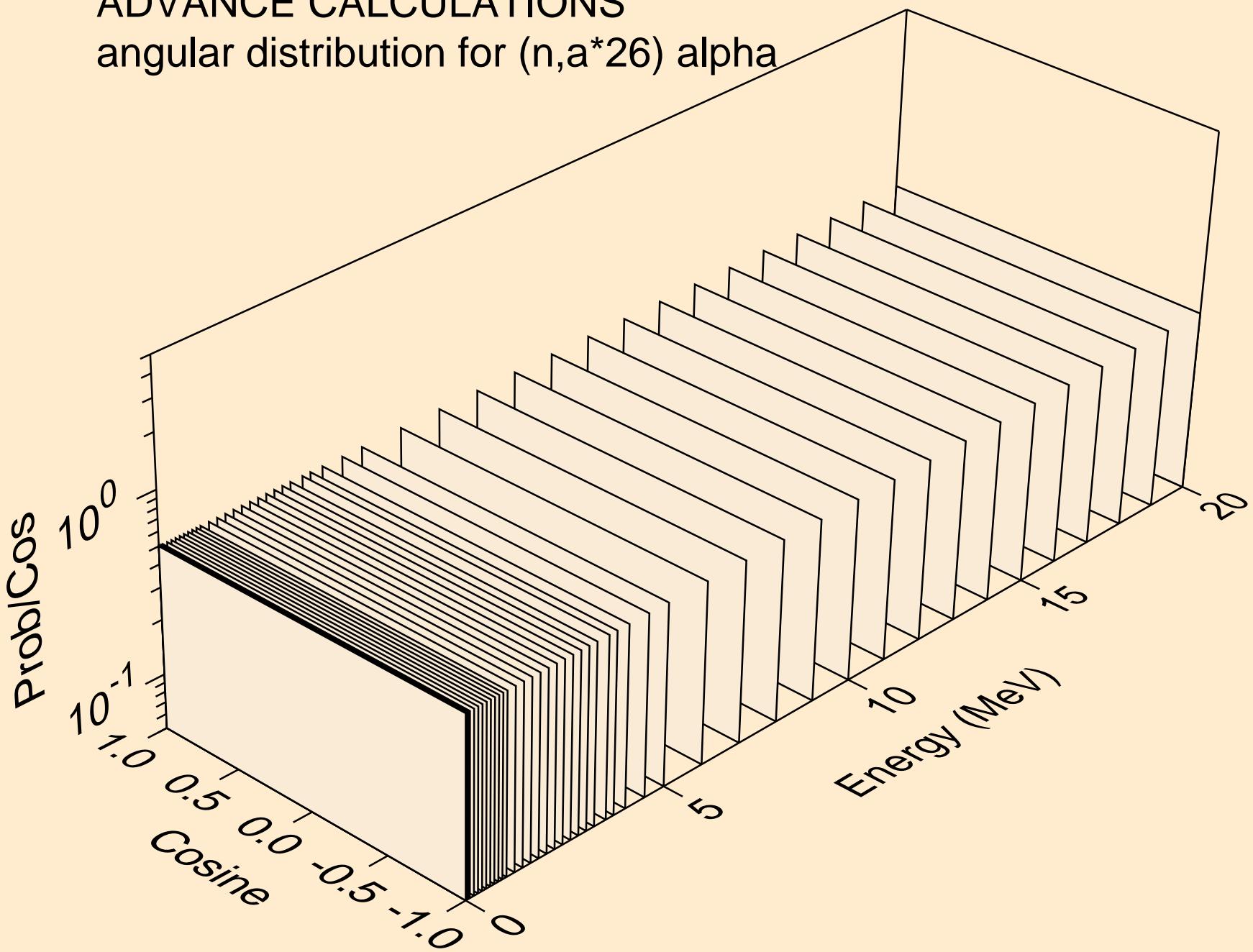
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 25$ ) alpha



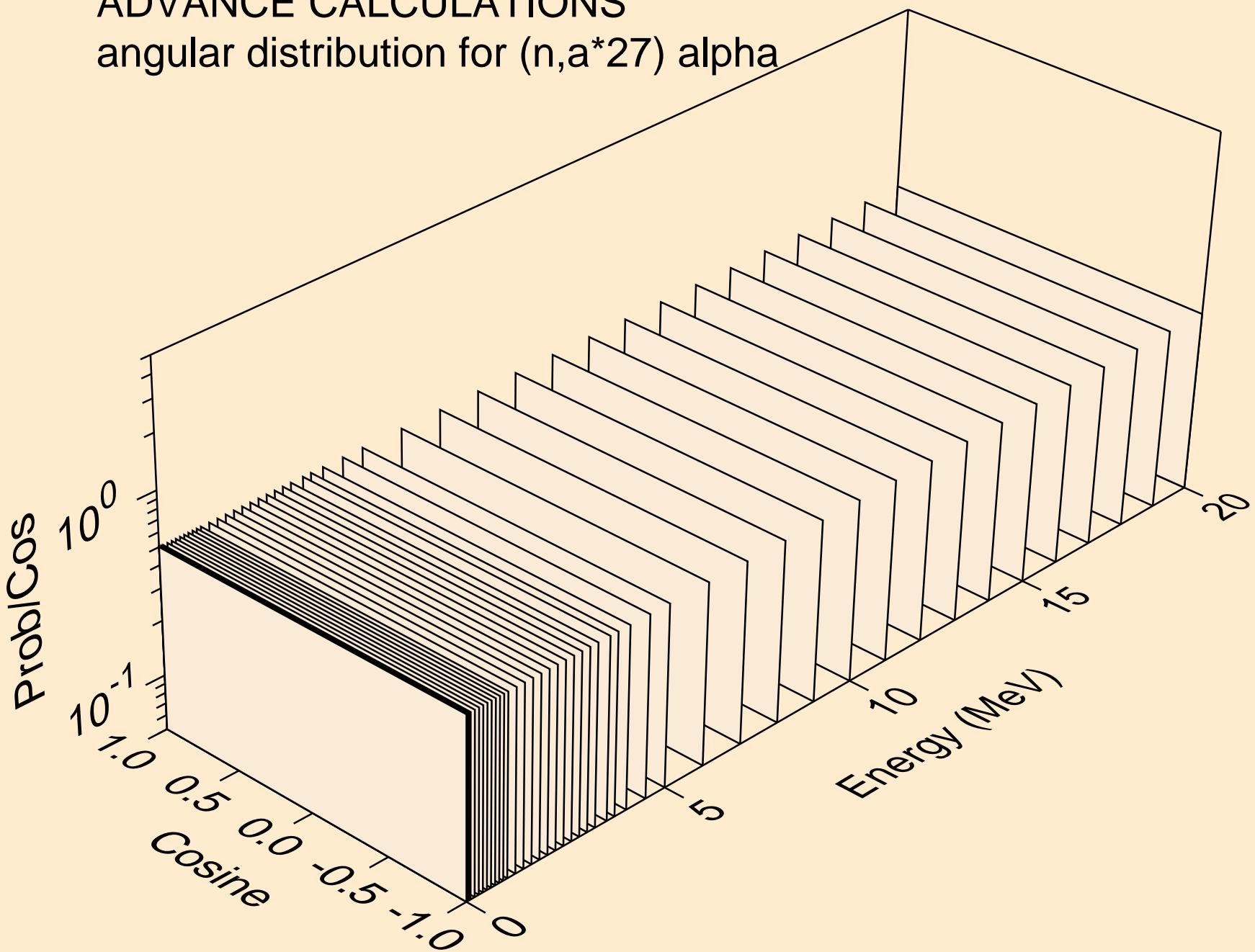
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 26$ ) alpha



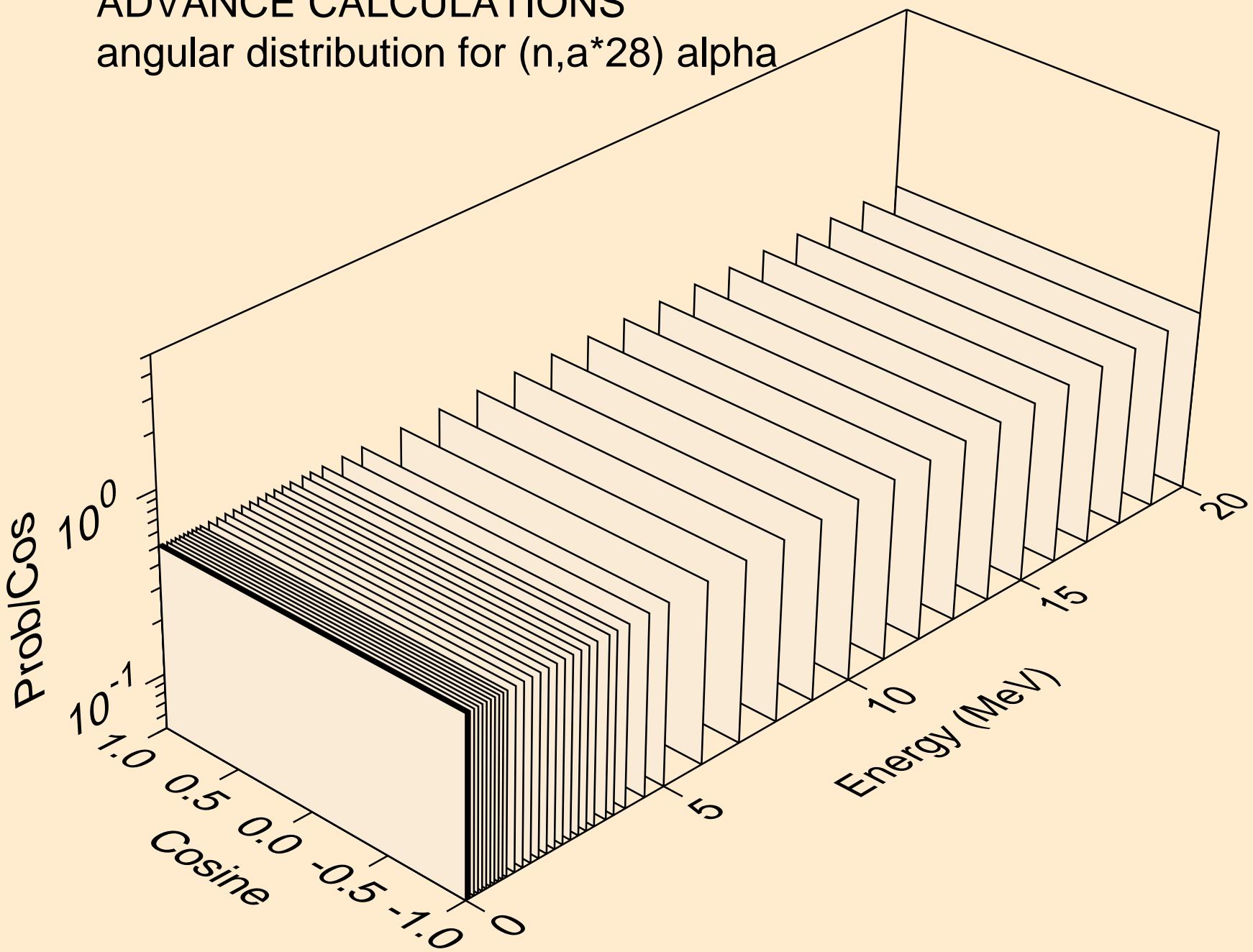
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 27$ ) alpha



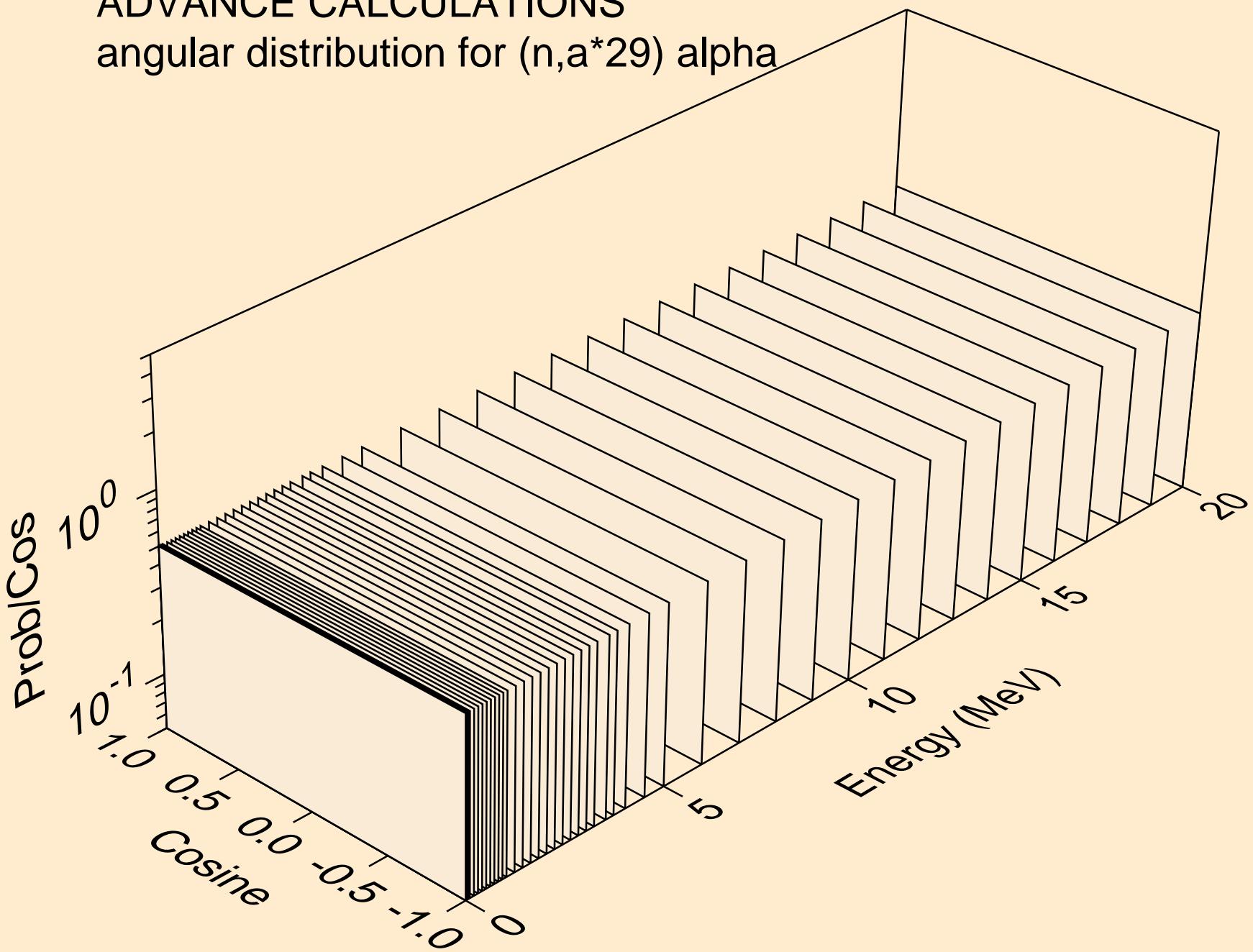
# ADVANCE CALCULATIONS

angular distribution for ( $n, a^* 28$ ) alpha



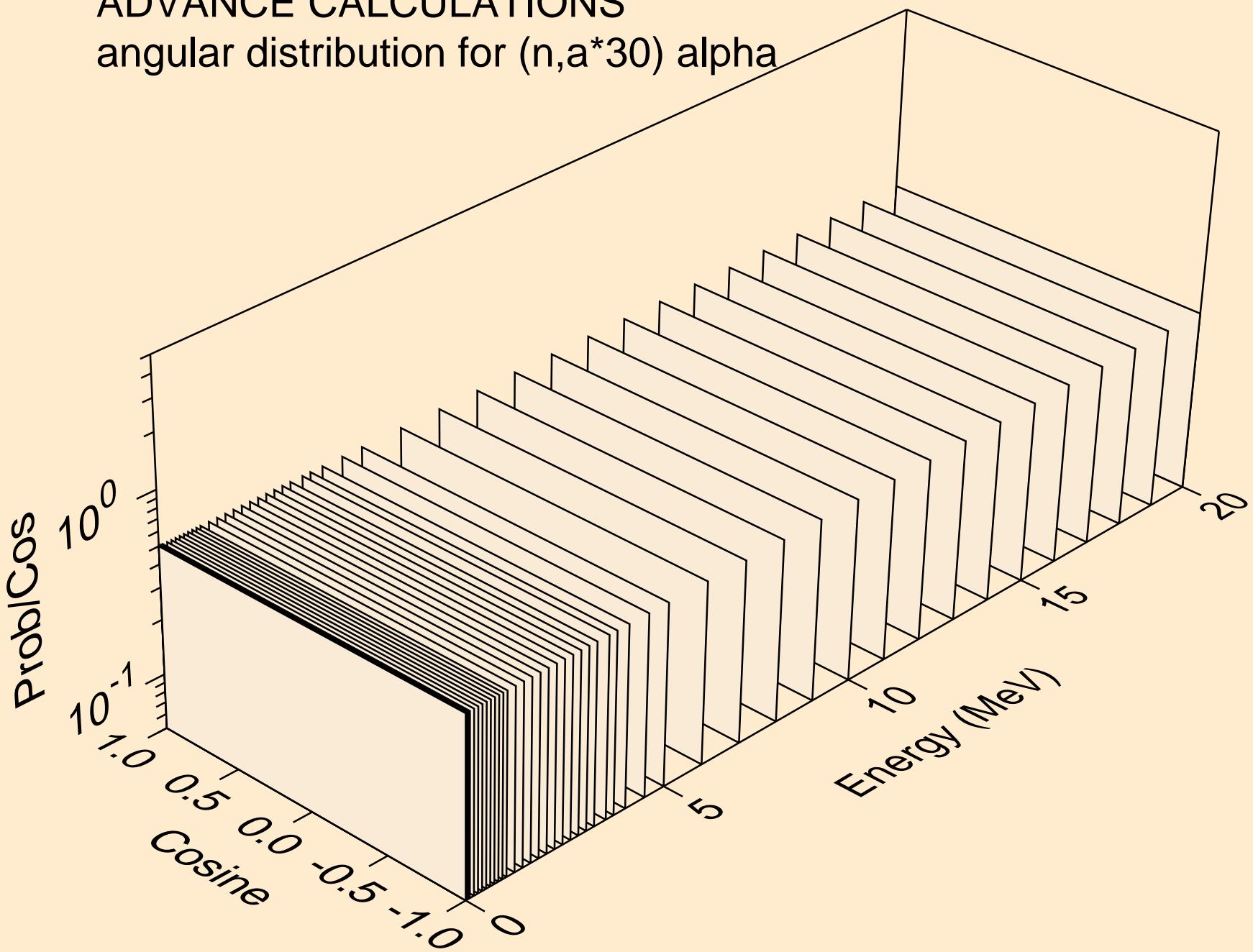
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 29$ ) alpha



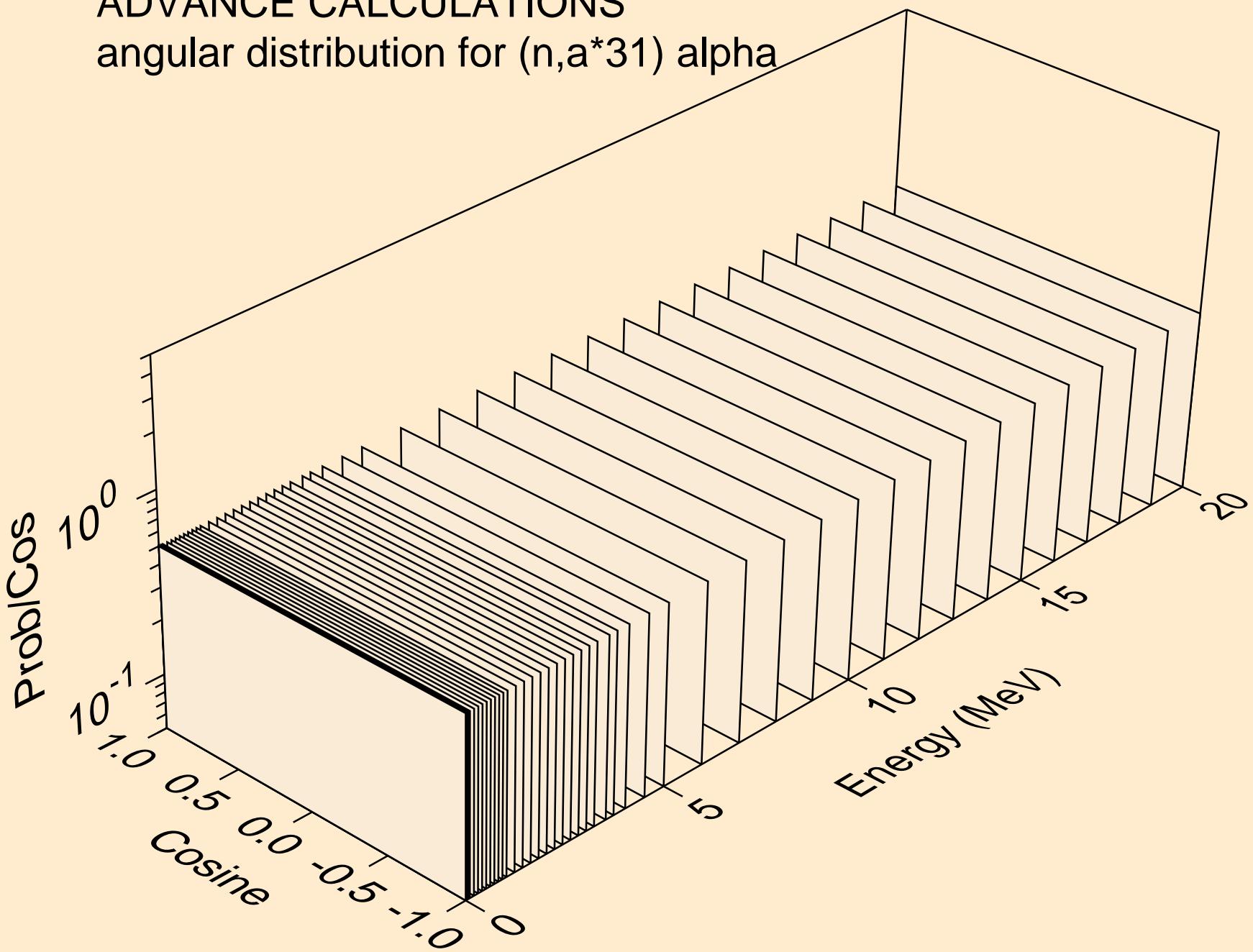
# ADVANCE CALCULATIONS

angular distribution for (n,a\*30) alpha



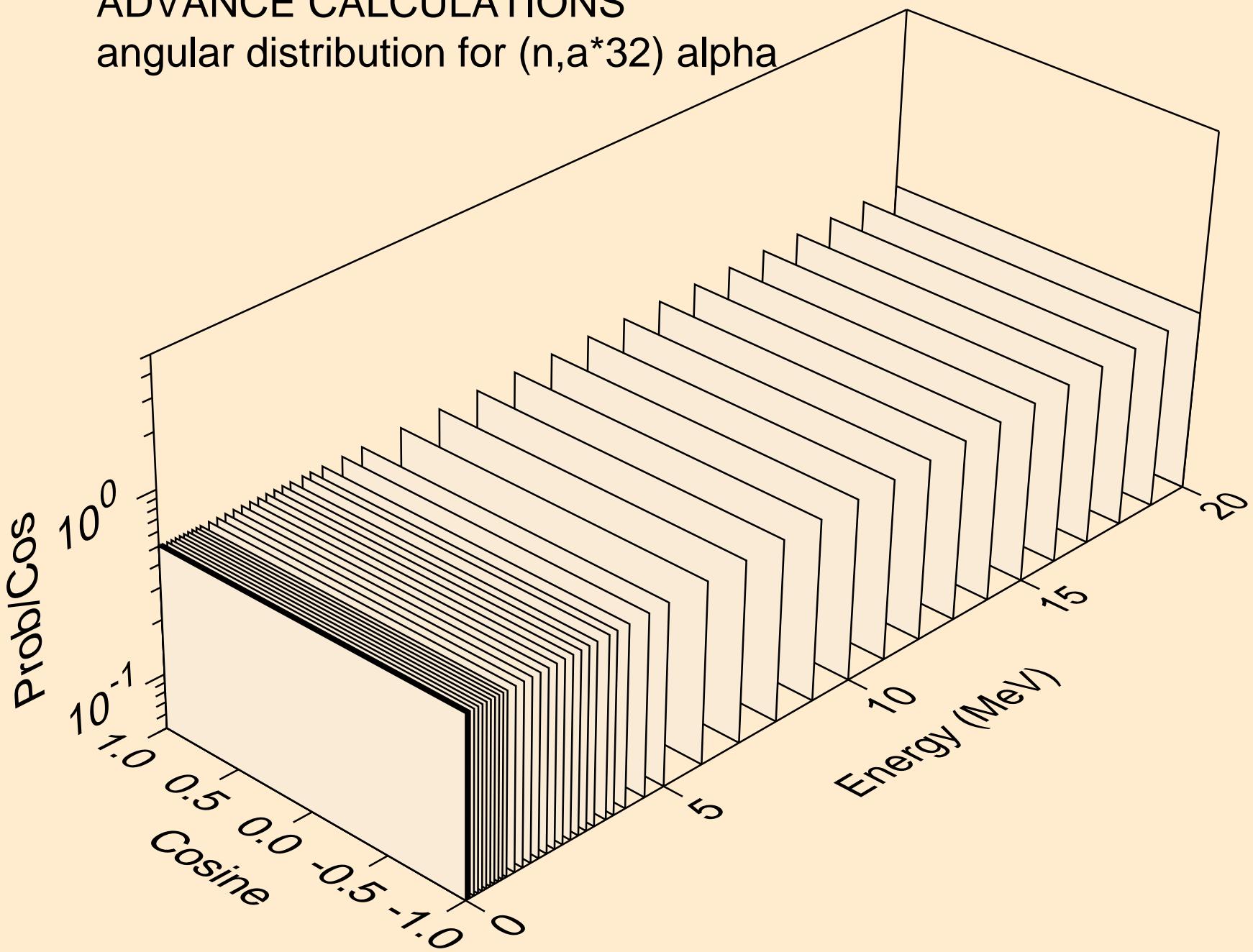
# ADVANCE CALCULATIONS

angular distribution for ( $n, a^*31$ ) alpha



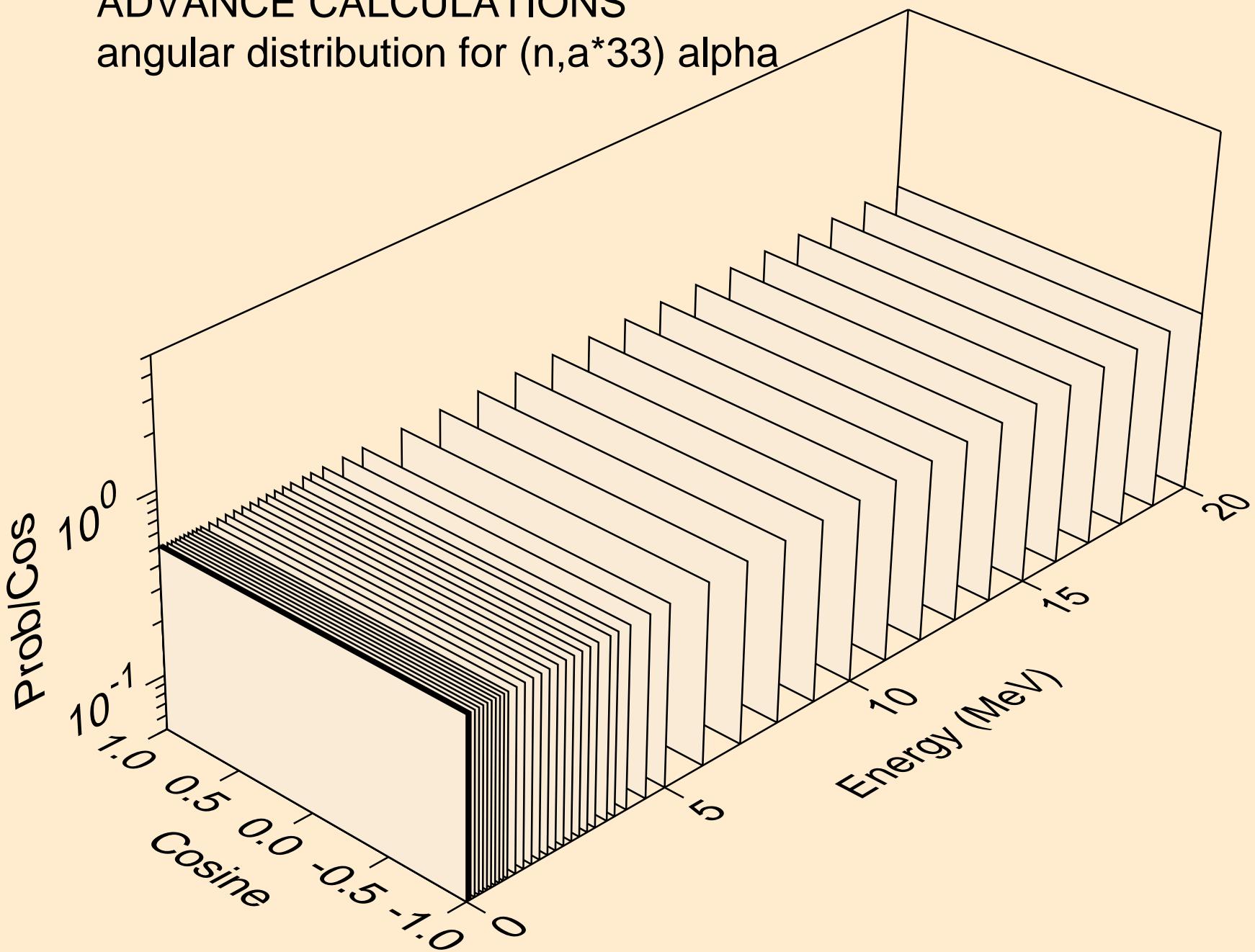
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*32$ ) alpha



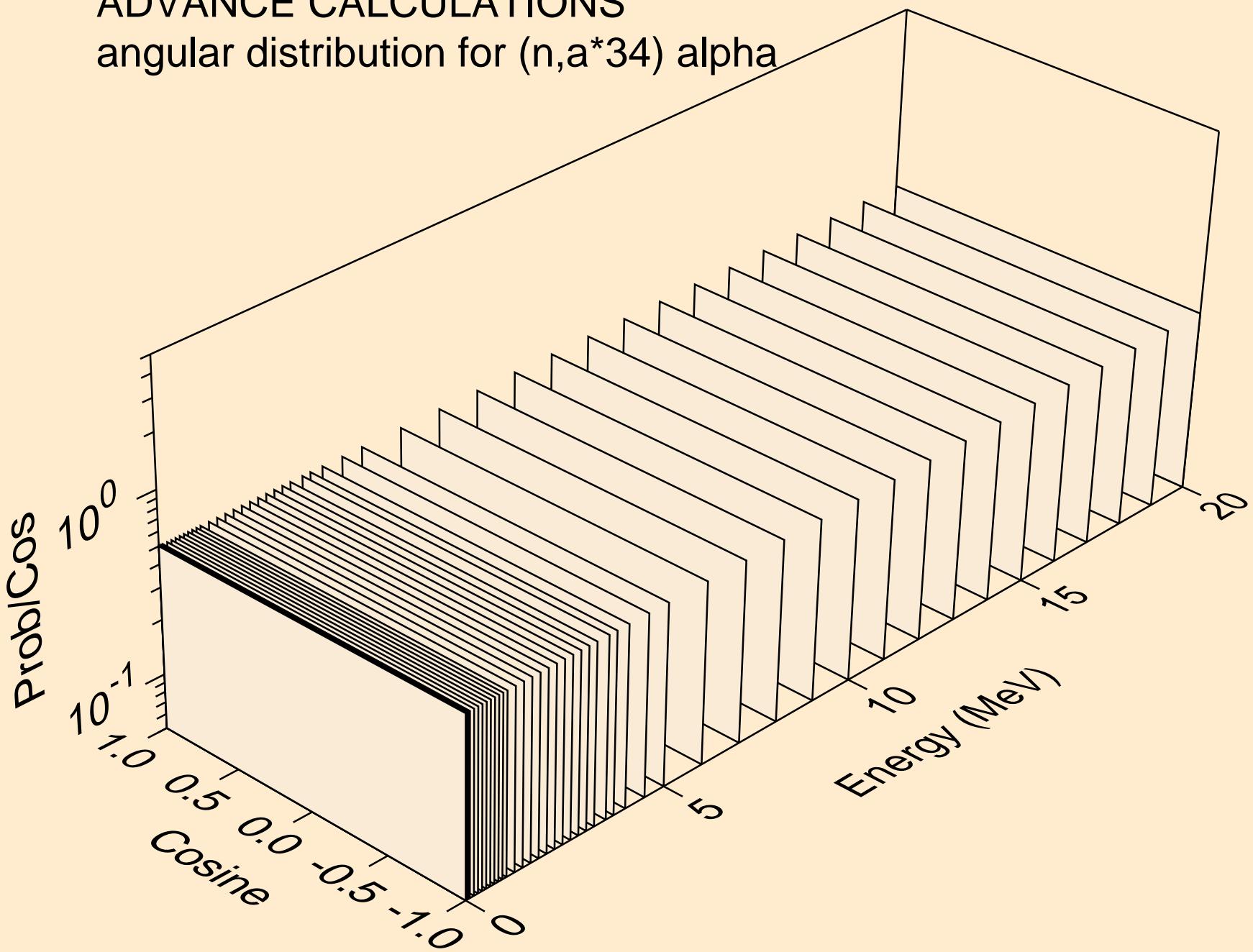
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*33$ ) alpha



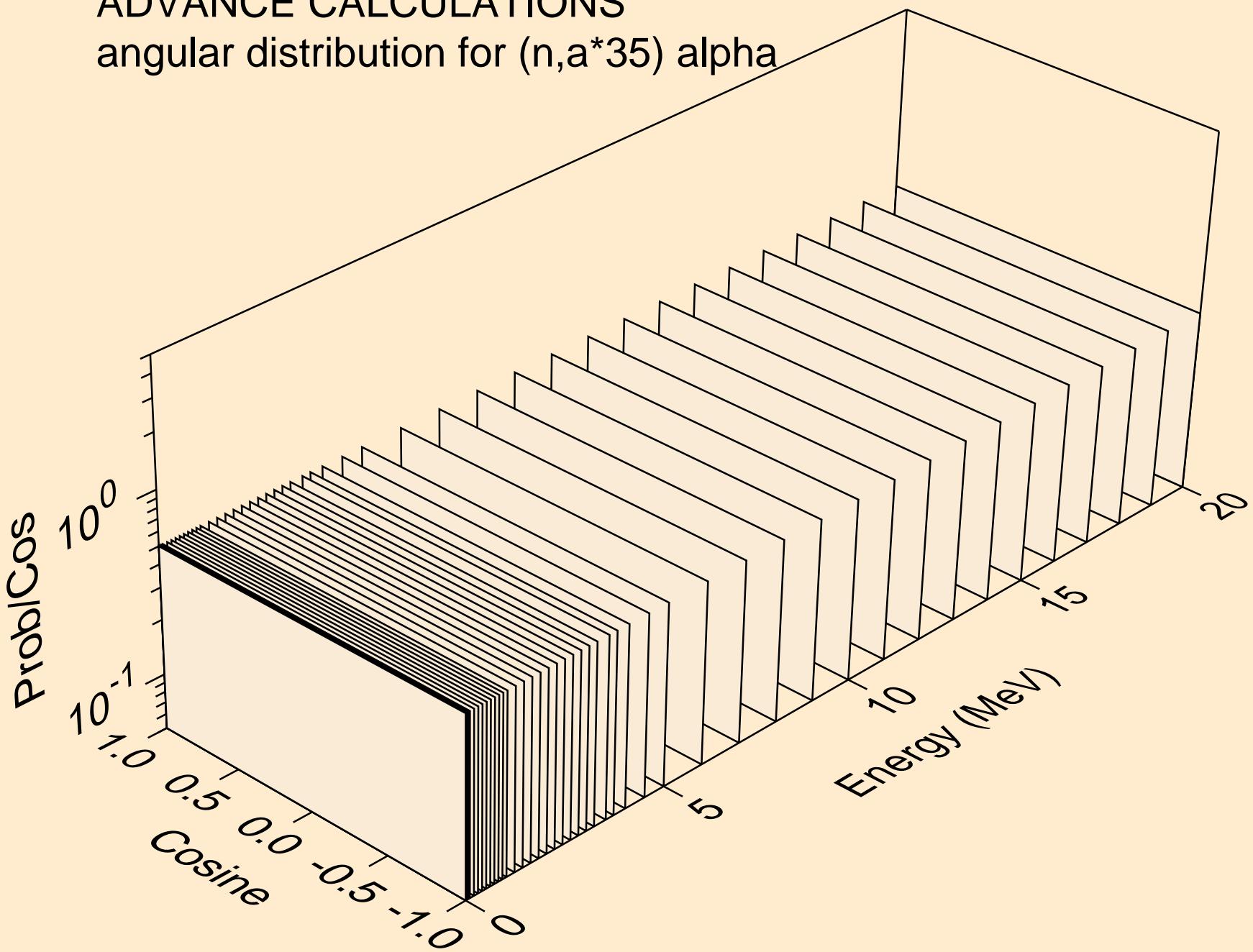
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*34$ ) alpha



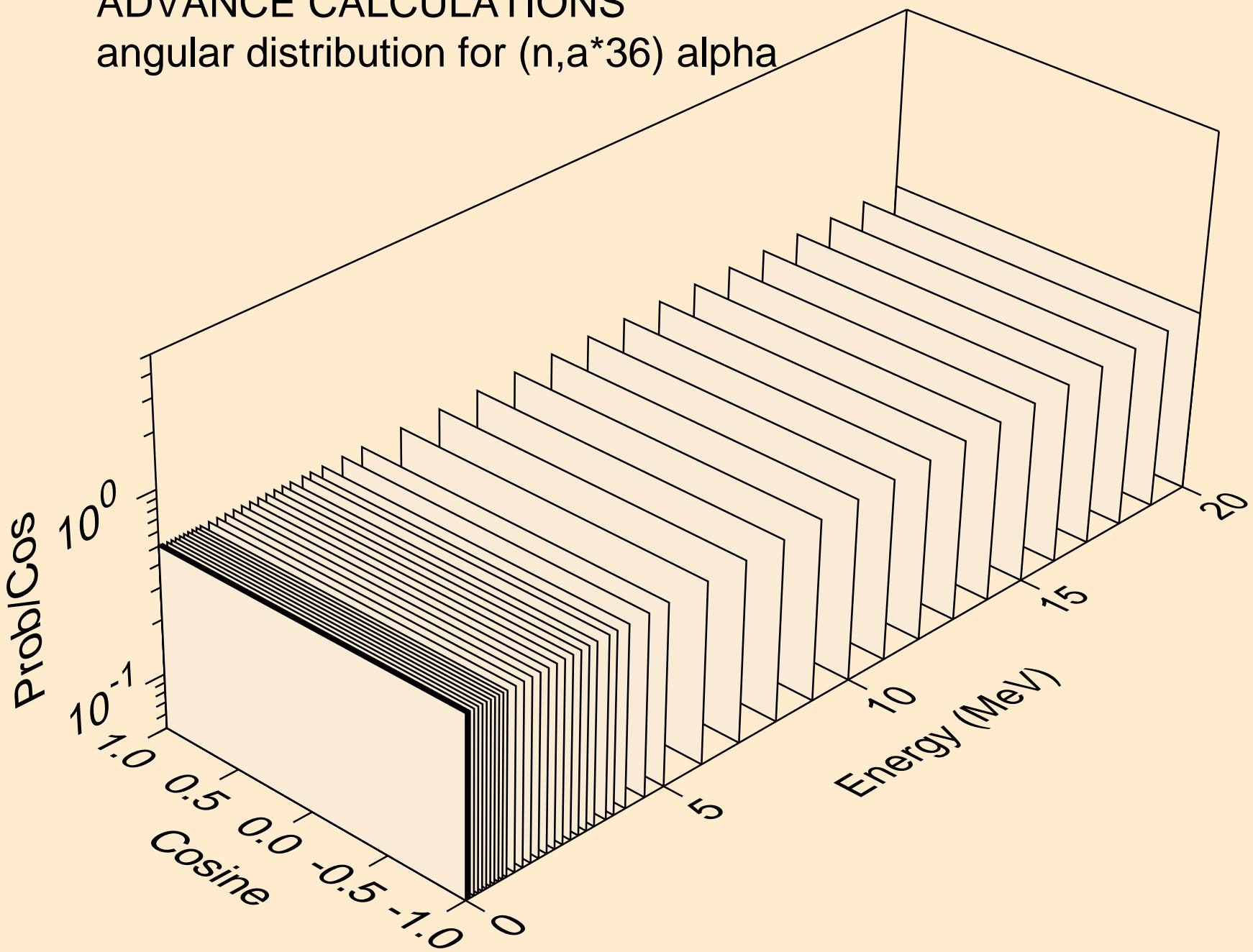
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*35$ ) alpha



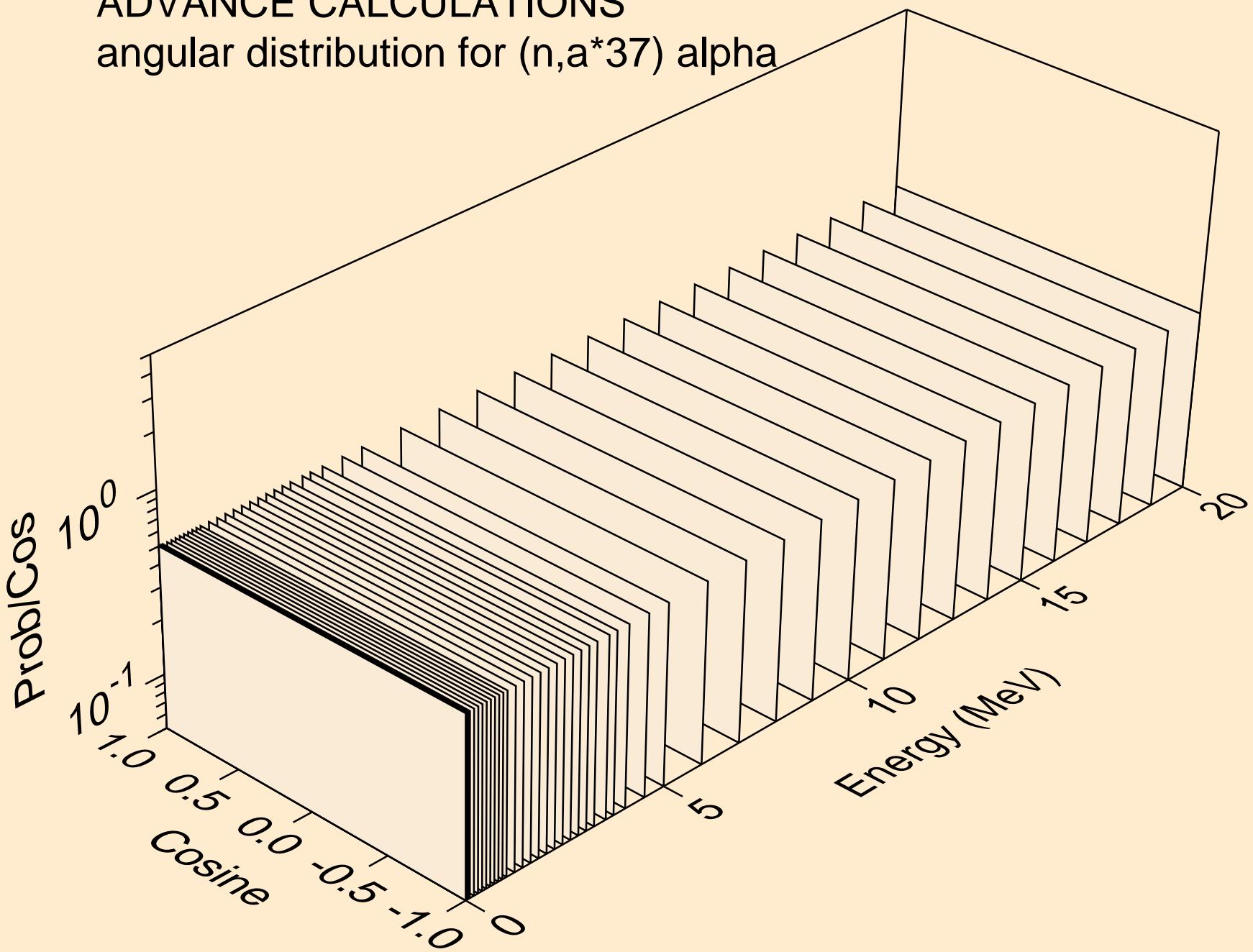
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*36$ ) alpha



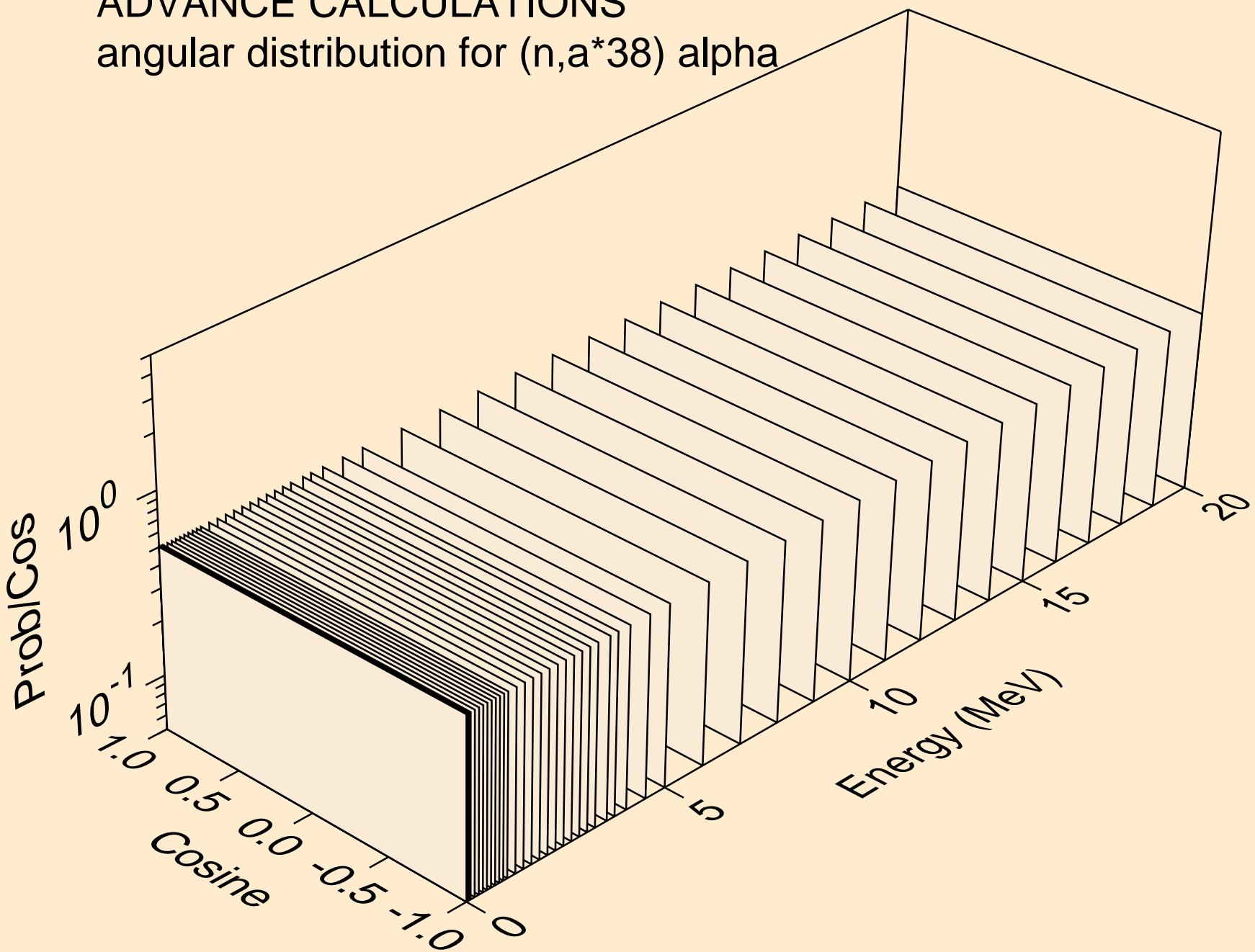
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*37$ ) alpha



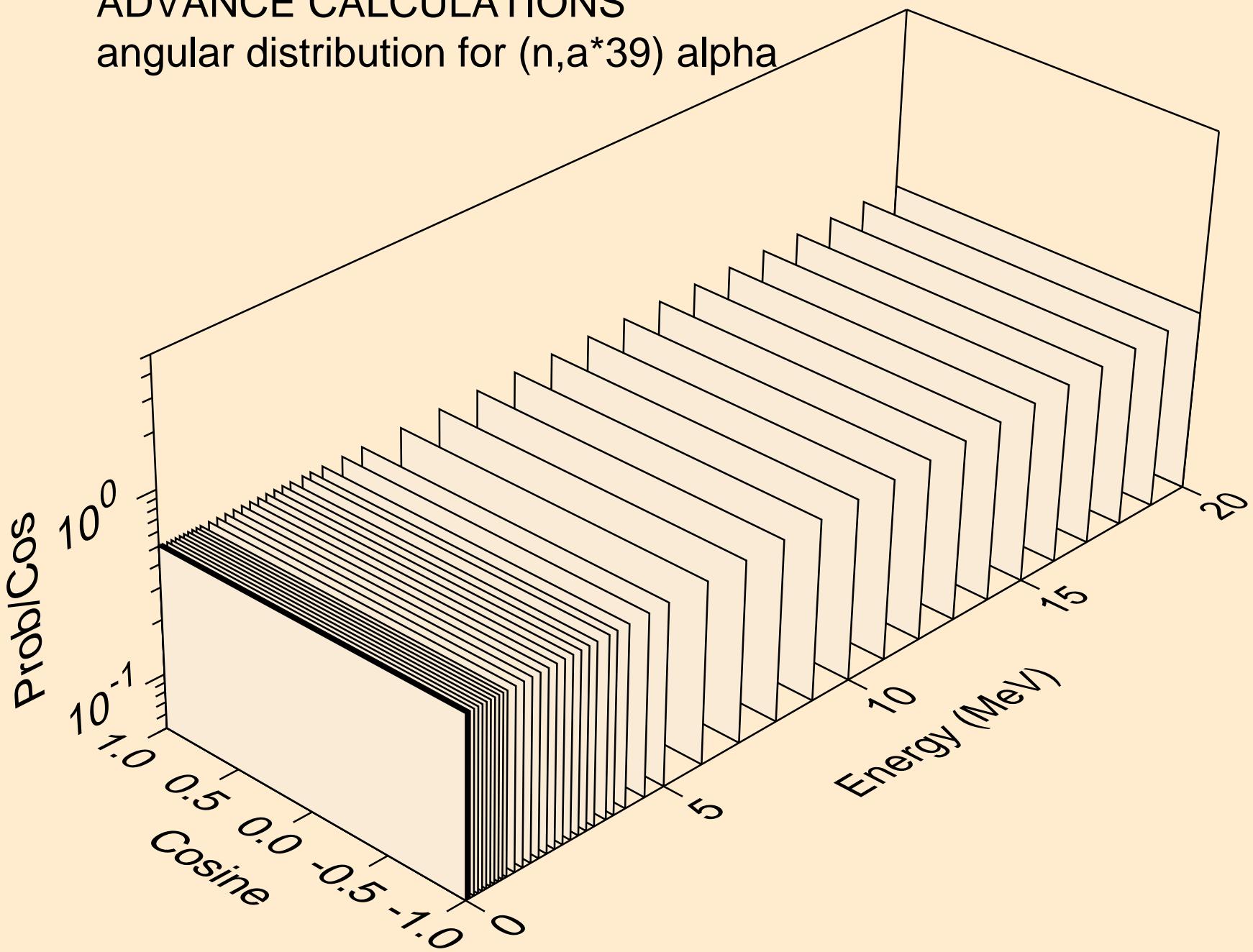
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*38$ ) alpha



# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 39$ ) alpha



# ADVANCE CALCULATIONS

alphas from  $(n,a^*c)$

